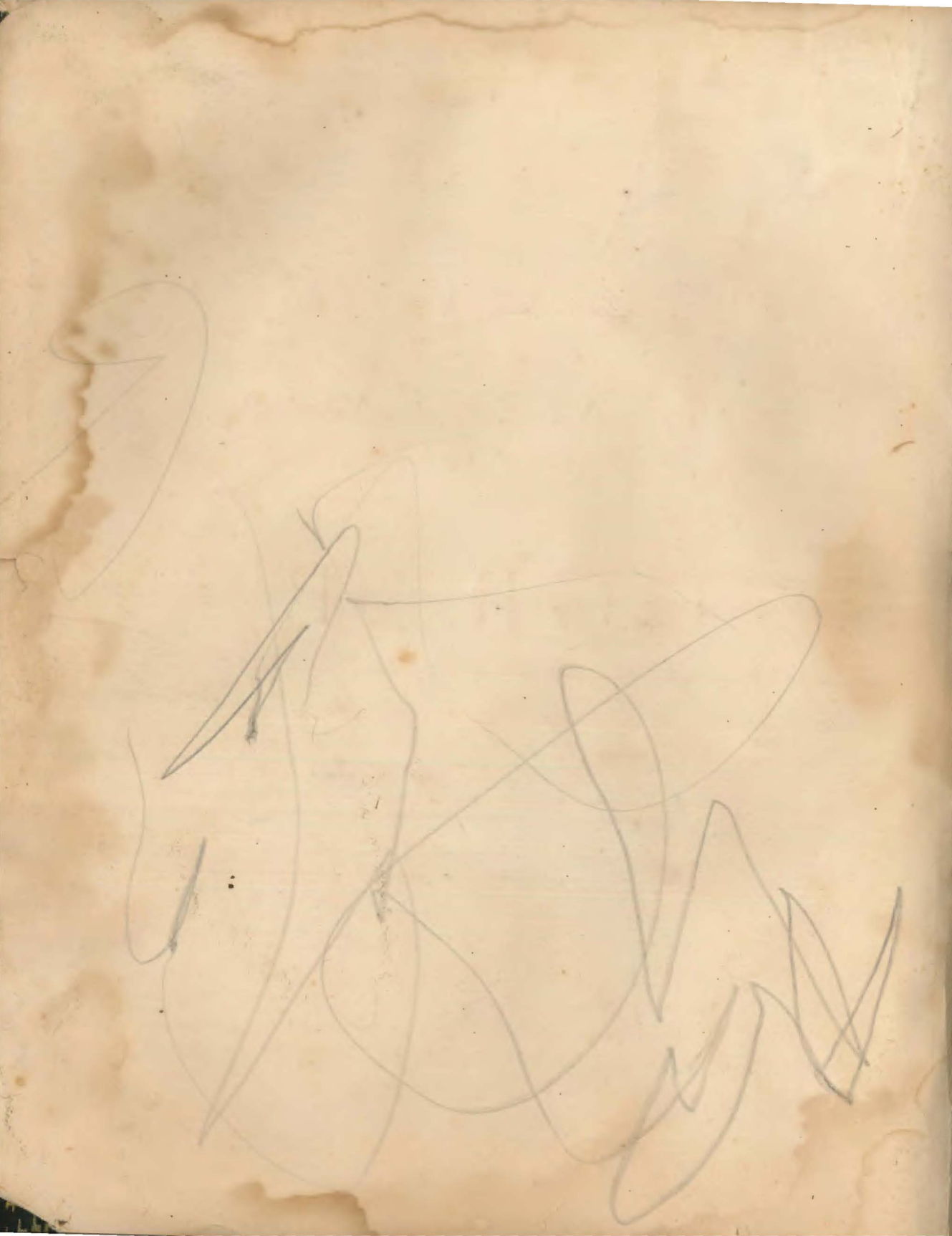

INDIANA EDUCATIONAL SERIES.

THE ELEMENTARY GEOGRAPHY

GEOGRAPHY

INDIANAPOLIS, IND.:
INDIANA SCHOOL BOOK CO.

TO THE TEACHER.

When we ask ourselves what we retain of all that we committed to memory in our study of geography, we can not fail to be convinced that it is only the leading physical characteristics of countries; the strongly marked differences between races and peoples; the strange and grand in nature and in art; and the great facts of industrial and commercial life.

Keeping this in mind, the author has aimed to present only what it is reasonable to expect pupils to remember. He has endeavored to use such methods, to give such hints as will make the book most interesting and helpful to learners and to teachers.

The work consists, primarily, of reading lessons; pupils travel over the world with the author, observing and learning as they go.

Those who study this book should be as far advanced as the "Third Reader Grade."

The effort of the pupil should call for something more than the mere exercise of memory. Judgment, and the power to frame his ideas in words, should be relied upon in a greater degree than the power to reproduce the words of the book. It is not enough to know that the pupil can repeat, word for word, some brief summary that he has said over many times. The best way to determine whether he has gained any ideas from the reading lesson, is to require him to tell in his own way—crude way though it be at first—what he knows of it.

These thoughts have been kept prominent; at first, the child is to fill blanks in sentences with appropriate words; later, he is to write or talk about certain "points" which are presented in the book; later still, while the author urges that this language work should be continued, the selection of appropriate points is left to the child himself. The teacher will sometimes find it necessary to assist in this, but the pupil should be thrown upon his own resources as far as is possible.

Local work is provided for in connection with all the earlier lessons. The author urges that the work suggested be earnestly and faithfully done. Nothing is more important. It should not be crowded into a few minutes at the close of the time devoted to the reading lesson, but the reading lesson and the local work connected with it should, if necessary, come on alternate days.

The map studies are designed to awaken thought and stimulate judgment. In them the pupil is made to compare and contrast. In them, too, he is called upon to decide many questions whose answers depend on directions of slopes, positions in zones, etc. These questions will be found quite different from those usually given; it is hoped and believed that they will prove more useful.

Map drawing, by cardboard forms at first, is made prominent. *But little memory work is required.* If a child copies the map representation of that of which he learns, the memory of relative sizes and positions, with their bearing on climate, productions, etc., will abide with him.

Reviews, both by topics and by lists of questions, are given. Their character calls for actual knowledge on the part of the pupil. The teacher is urged to extend them when possible.

A number of picture lessons are given. All sides of the growing mind of the child are to be developed and strengthened. Several of the best pictures for this purpose are unaccompanied by lessons. It is hoped that teachers will themselves base suitable instruction upon them.

The artistic typographical dress which has been given the book needs no commendation in this place; it, and the illustrations, speak for themselves.

The author submits this work to his fellow-teachers and to pupils, trusting that it may be found a pleasant companion and a safe guide.

SANFORD NILES.

CONTENTS.

	PAGE
Introductory Lessons,	3–21
Map of the World,	22–23
North America,	24
South America,	32
Europe,	38
Asia,	48
Africa,	55
Oceania,	61
The Sea,	64
The United States,	68
New England States,	71
Middle Atlantic States,	73
Southern States,	76
Central States,	78
Rocky Mountain and Pacific States,	82
Miscellaneous Review of the United States,	87
Miscellaneous Review of the World,	87

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C. W. WILLETT.

ELEMENTARY GEOGRAPHY.

READING LESSON I.

PLEASANT JOURNEYS.

MY YOUNG READERS: You already know much about the country near your happy homes. You have seen its hills, its valleys, its prairies, and pleasant woodlands. You have gathered sweet wild flowers on the banks of its streams, and have watched the fish in the clear pools.

You can tell your teacher what animals are found on the farms; and what fruits, grains, and vegetables grow there. You can give the names of some of the birds that build their nests in the groves, and whose sweet songs you have heard. You can also tell her of the people who live in your neighborhood; of the houses, shops, churches, schools, and many other things. How much you have learned about that small part of the world where you live!

Would you not like to visit other parts of our own state, and other states and countries? This would be very pleasant. The writer of this little book will go with you. We must make good use of our eyes, our ears, and all our senses.

In some parts of our own great country we shall see hills, or mountains, whose tops are higher than the clouds. There are roaring waterfalls, spouting springs, deep caves, and many other strange things.

In many states there are great orchards covered with fragrant blossoms in the spring, and loaded with choice apples, peaches, and pears in the autumn. In others, we shall find groves of oranges, vineyards with their rich clusters, and white cotton fields with their dark-handed pickers.

We will go among men who work where the great hammers beat, where the furnaces roar, the spindles whirl, and the shuttles fly back and forth through the web.

We will take a "flying trip" to lands where it is summer all the year. There the elephant, the monkey, and the parrot will be found at home. There, too, we may pluck the milky cocoa-nut from its tall stem, and taste the banana and delicious pine-apple where they grow.

BEE-HIVE GEYSER — YELLOWSTONE PARK.

We will put on our warmest furs, and seek a land of ice, where no tree or green thing is seen, and the sun is out of sight for months.

TROPICAL FRUITS.

Crossing the wide sea in a ship, we will learn something of the whale, the shark, the codfish, and of other creatures of the deep. On the other side, we will visit the countries where many of our people where born, and more distant lands, where dwell strange tribes of men.

We will travel by rail, by steamer, on foot, on horseback, mounted on the patient camel, or the huge elephant. We will learn about the land, the water, the plants, the animals, the countries, and people of the earth. This will be studying geography. What a pleasant study it will be!

Oral Exercise.—What is it to make good use of our senses? Would you like to climb a hill whose top is higher than the clouds? Have you seen an orchard loaded with fruit? Why are those who pick cotton called dark-handed? What is done where the hammers beat? Furnaces roar? Shuttles fly? Have you seen animals from the summer lands? Fruits? Would you like to visit a land of ice? What is meant by creatures of the deep? Why must we travel in these ways?

Look at the picture at the head of this lesson. How many things can you see? How many things can be seen in the second picture?

NOTE.—The reading lessons should not be committed to memory. It is recommended that they be read aloud by pupils in class. The oral exercises are not to follow the reading, but to accompany it. The questions are not exhaustive. They will lead pupils to *observe* and *think*. Additional questions may be used at the discretion of teachers. Every picture should be made instructive. Pupils should be led to see all that the artist had in his mind. Require them to *tell* what they have learned.

Have them *write* a summary of what they have learned in each lesson. The summary may be prepared after the children have read, and received oral instruction. It will then show whether they have been profited. Many teachers pursue this plan with great success. Several blank summaries are given in the following pages. They may prove helpful to young beginners who have taken no lessons in language.

READING LESSON II.

DIRECTION.

WHEN we wish to go to a strange place, we must first find out which *way*, or *direction*, it is. The stranger who called at the door this morning, asked us to direct him to the village. Our homes are in different directions. Would you like to know the names of the directions?

When we stand with our faces to the sun, at noon, we are looking toward the south, and our shadows fall to the north. When we watch the beautiful clouds at sunset, we are looking toward the west. When we take an early morning walk, we see the sun in the east. *North*, *South*, *East*, and *West* are the chief directions.

If a place is half-way between north and east,

it is northeast. If it is half-way between north and west, it is northwest. If it is half-way between south and east, it is southeast. If it is half-way between south and west, the direction is called southwest.

The sun aids us in telling directions. We may also tell by the stars. When you take an evening walk with your teacher, ask her to show you the North Star and the "pointers" of the "Great Dipper," so that you may tell directions at night.

When the writer was a boy, he saw six black men who had been slaves in the South, and were fleeing to the North for their freedom. They did not dare to travel in the day-time, for fear of being caught by their masters. These poor men had walked many nights to get to a country where they could be free. All this time they were guided by the North Star, whose direction they had found out.

MARINER'S COMPASS.

We here see the picture of a curious little instrument called a compass. It contains a needle that turns on a pivot. No matter how the compass is moved, one end of the needle turns quickly to the north, and remains pointing in that direction. The compass is of great use. It tells direction on land and sea better than anything else. In night or in day, in cloud or in sunshine, the sailor knows which way to steer his ship over the pathless waves.

Oral Exercise.—Give a thorough drill on directions, and repeat the drill daily, until every pupil can point, without hesitation, to any required direction. If possible, show the pupils a compass. Talk about the southward flight of birds late in autumn, and their northward flight in the spring. Ask your pupils to write sentences like the following: The church and the shop are north of the school-house. Mr. Brown, Mrs. Smith, and Mr. Post live east of the school.

READING LESSON III.

DISTANCE.

IF we wish to visit a friend, we must know whether his home is *far* or *near*, or the *distance* we shall have to travel before reaching it. Distance is found by measuring. The carpenter measures with a rule. The tailor uses a yard-stick. The surveyor measures with a long chain.

The teacher will show you a rule, which is one foot long. It is divided into twelve equal parts, and each part is called an inch. There are, then, twelve inches in a foot. Three feet make a yard. Five and one-half yards make a rod. An inch, a foot, a yard, and a rod are measures which may be used for short distances.

We must have a measure for long distances. We may say that John lives three hundred and twenty rods, or one mile, from the school-room. A mile is the measure we need. We shall use it very often. Can you name two places that are one mile apart? How long does it take us to walk a mile? The boys may count the steps they take in walking a mile. Have you seen the farmer measure distances by pacing?

In old times, men had ways of measuring that seem strange to us. What we call an inch was once measured with three grains of barley, placed end-to-end. Long before that time, the foot of a large man was used as a measure. What a queer rule that would be for a carpenter!

Men once went to the low banks of streams to cut reeds or rods with which to measure their land, and so the word rod, or pole, came to be used. People called Romans sometimes measured distances by pacing. It took one thousand steps to make a mile, and their word *mille*, meaning a thousand, is our word mile.

We hear men say that a horse is so many "*hands*" high. This takes us back to a time when the width of a man's hand was first taken as a measure. As the horseback rider always carried the hand with him, he was never at a loss for a rule with which to tell the height of his beast. This old way of measuring is still in use.

Oral Exercise.—Ask pupils to measure the length, breadth, and height of objects in the school-room. Have them measure the house, grounds, distances to trees, dwellings, and other objects. Determine the distances to their homes. Have pupils judge by the eye, and then verify by the rule, or rod measure.

NOTE.—A *foot* and a *mile* should have a definite meaning to the pupil. They are the measures we carry with us. With the foot, we find the height of mountains, of waterfalls, and the depth of the ocean. With the mile, we find the size of the township, of the state, of all countries, and of the earth itself.

Set a stake one hundred feet from the school-house, and another just a thousand feet. Fix upon some object one mile away. Then, as pupils read of heights, lengths, widths, use these measures. Help the children in this way, and they will not think of mountains as mole-hills, or of oceans as way-side pools. Provide a foot-rule, a yardstick, and a cord 16½ feet long, for the use of pupils.

READING LESSON IV.

OUR NEIGHBORHOOD.

OUR school-house is near the center of the neighborhood. What a pleasant country lies all about us! To the northeast we see the glassy lake with its pretty island, around which we have sailed in our tiny boat. On the shores of the lake are many bright-colored pebbles and shells. The bass, the pickerel, and the sunfish swim in its clear waters, and hundreds of geese and ducks are seen here in the spring and fall.

To the northwest is the hill. What fine times we have had on its slopes in winter! We may follow the ridge for a mile or more. On its northern side are the woods where grow the poplar, the oak, and other trees, and plants with beautiful flowers. Here are pheasants, rabbits and squirrels.

South of the hill is the valley. At its head is a cool spring, where the traveler waters his thirsty horse. From the spring runs a tiny brook, which grows larger as other brooks flow into it, on its way down the valley. Away to the south is the prairie, with groves here and there.

But these are not all the things which we may see from our school-house. Along the roads are the farm-houses where we live. One is a mile to the north, another a mile to the south. A mile to the east is the mill where the wheat and corn are ground, and the pond where we glide over the ice when winter is here. A little less than a mile to the southwest is a pasture where horses are feeding and colts are playing. How happy we should be amid scenes like these!

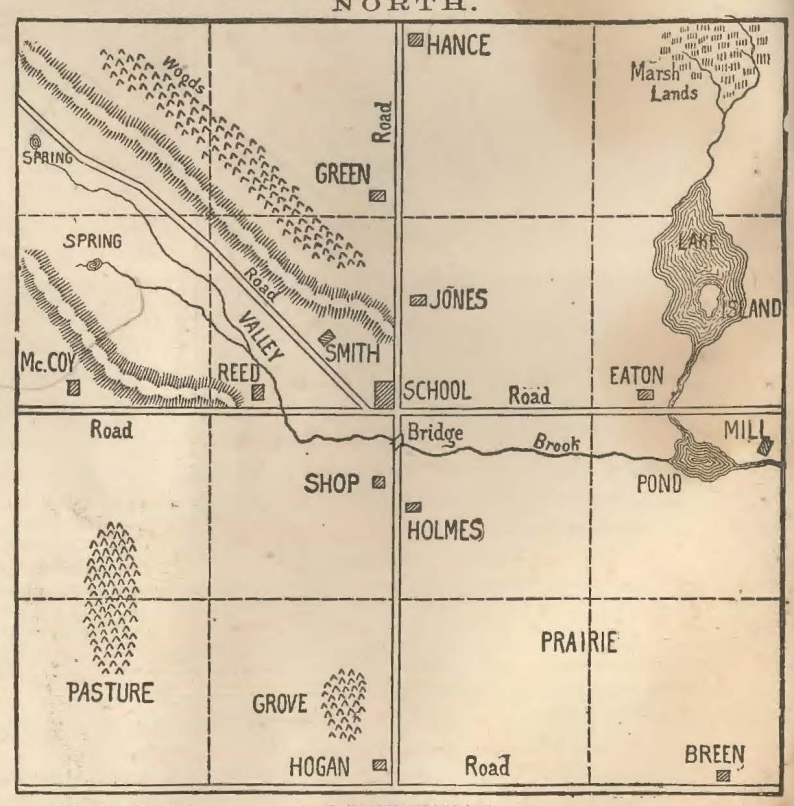
NOTE.—Before attempting to draw a map of the neighborhood, pupils should have a lesson on the *place*, *direction* and *distance* of objects to be represented. These three points are kept in view in the lesson given above.

The teacher should not fail to converse with the class about their own neighborhood. Give the place, the direction, and, so far as possible, the distance of hills, valleys, lakes, groves, etc. Take a few farms, or the entire district, according to the age and understanding of pupils.

READING LESSON V.

MAP OF NEIGHBORHOOD.

WE have been talking about our neighborhood. Would you like to see a *map* of the neighborhood? Here it is. Let us look at it very carefully.



SCALE, 2 INCHES TO A MILE.

MAP OF NEIGHBORHOOD.

The top of the map is north. Which side of the map is east? West? Which part of the map is south? Place your finger on the center of the map. On the northeast corner. Northwest. Southwest. Southeast. Move your finger over the map from east to west. From west to east.

In which part of the *neighborhood* is the school-house? The lake? The hill? The prairie?

The pasture?* On what part of the map is the school-house? Lake? Hill? Prairie? Pasture?

Now we see that the school-house, which stands at the center of the neighborhood, has a place at the center of the map; and that those things which are in the eastern, western, northern, or southern part of the neighborhood, have their place on the same part of the map. Then we may say that the map shows *where things are.*

Looking at the map, we find that things have the same direction from one another that they have in the neighborhood. The map *shows direction.*

The map is a great deal smaller than the neighborhood, but all the parts are made smaller alike. Place a rule on the map. It is *two inches* from the school to Mr. Hance's line, on the north, and *two inches* to Mr. Hogan's. We have learned that it is *one mile* to Mr. Hance's and *one mile* to Mr. Hogan's. Then we may say that *two inches* on this map stand for *one mile.* The map is drawn on a *scale* of *two inches to a mile.*

The map of the village, seen on this page, is drawn on a scale of one inch to a mile.

To find the distance from one place to another, we use the scale of the map as a measure. How many lengths of the scale from the bridge to the mill? How far is it? How many lengths from the north part of the marsh to Mr. Breen's? What is the distance? From this we see that the map shows *how far things are apart.*

We have now learned that a map tells where things are, in what direction they are from one another, and how far apart they are.

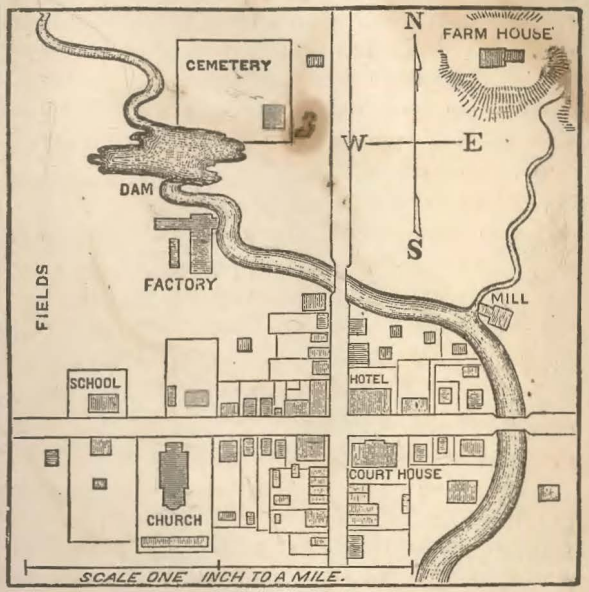
We have maps of townships, of counties, of states, of countries, and of the whole earth. They are always drawn on some scale, and the top of every map we use is north. Besides the three things we have learned, maps show the shape, or form, of states and countries, and what surrounds or bounds them.

NOTE.—Have pupils draw maps of their own neighborhood. Let them sit facing the north. Help them to determine the scale on which their maps shall be drawn. Lead them to think of the place an object has in the neighborhood before giving it a place on the map. It may be best to locate the school-house as soon as the boundaries are drawn. Each child may then think of himself as standing on his little map, and he will not be so apt to make mistakes. Where the distance is known, the place on the map should be determined by using the scale. In some cases it will be best to draw a road leading past the school-house, and then outline farms and locate houses by actual measurements.

Pupils now know what a map is. It will be well for the teacher to show them a map of the township, county and state, and help them to find the scale on which each map is drawn.

Show them how hills, lakes, streams, cities, railroads, etc., are represented. Teach the meaning of the term boundaries by calling attention to what surrounds the farms, township, and county.

*Refer to Lesson IV.



MAP OF A VILLAGE.

We present a map of a village and surrounding country. Such a map should be drawn by pupils in a village school. It may, sometimes, be best to limit the map to a few squares near the school building. In cities teachers may easily procure maps already drawn. The preparatory lesson on the place, direction, and distance of well-known objects, should not be forgotten.

Ask pupils to cut slips of paper as long as the scale, and use them to find how far apart places are. Give them a drill on the direction places are from one another. Such exercises are profitable.

READING LESSON VI.

FORM OF THE EARTH.

PEOPLE once thought that the Earth, or world on which we live, was flat. It seems flat to us, just as it did to those who lived a long time ago. I am sure we could never guess its real shape. It is round, like a ball. If we could see it from a great distance it would look somewhat like the moon. How did men find out that it is not flat? Let us see if we can understand this.

Suppose the earth were flat, like a floor, and a

man were to travel in the same direction, day after day, would he not get farther and farther from the place where he started? We see that he would. If he traveled long enough he would come to the edge, or to the "end of the earth." But this does not happen. Men have often set out from home and traveled in one direction until they reached home again. They have gone round the earth. So we know that it can not be flat.

PICTURE SHOWING FORM OF THE EARTH.

In the picture, three ships are seen sailing away from the tower. One is wholly in sight of the man on the tower; the next is partly out of sight; but the most distant ship can no longer be seen. Why is the ship hidden from the man on the tower? Is it not because the surface, or outside, of the ball is curved, or bent?

Now, when we stand on the sea-shore, or near any large body of water, and ships sail away from us, they go out of sight just as things do on a ball. This shows that the earth has the shape, or form, of a ball.

Size of the Earth.—If we were to go twenty miles a day, it would take us 1,250 days to travel round the earth. Three winters and four summers would pass before we should reach home. What a long journey! The distance round the earth is 25,000 miles. This distance is called the *circumference* of the earth. The distance through the earth, or its *diameter*, is nearly 8,000 miles.

Written Exercise.—Men once thought that the earth was ——. We know it is —— flat because men have —— round it. In the picture, ships are —— away from a man on the ——. They go out of his ——, because the —— of the ball is ——. Ships on the —— go out of sight in the —— way. This shows that the —— is ——, like a ball. The circumference of the —— is —— miles. The diameter of the —— is —— miles.

NOTE.—A written exercise is given above. Pupils should supply the words which are omitted, and submit their work to the teacher. A few of these skeleton summaries are introduced to aid beginners. Every pupil should be encouraged to give an oral, or, better still, a written, abstract or summary of each lesson. Such summary will show whether the pupil comprehends what he has read, and what the instructor has added by way of illustration.

The writing will impress the facts on the mind, and will prove a valuable exercise in teaching language, spelling, punctuation, and penmanship. Do not expect too much at first. The pupil who gives a little to-day will do better to-morrow.

Globe Work.—A globe should be used to illustrate Lesson VI. Move the hand over the surface of a table in one direction. The pupils will see that it will not come back to the point of starting so long as it continues to move in the same direction. Move the finger round the globe in the direction taken at first, and they will see that it will always reach the starting point. Now, men have reached their homes after journeying in one direction. What does this show? Move a small object over the globe, so that the children may see how it goes out of sight. Make an application of the fact. Speak of circumference and of diameter.

READING LESSON VII.

SURFACE OF THE EARTH.

AS we look about us, we see land and water. We can not go anywhere on the outside, or surface, of the earth, where we shall not find one or the other. Each of the pictures shows one-half of the surface of the earth. The dark parts represent land, and the lighter parts represent water. Which is large, the land or the water? Is the land in one half the same shape that it is in the other? Point to the part that has the most land.

EASTERN HEMISPHERE.

The large bodies of land are called *continents;* the smaller bodies are called *islands.* The pictures of the continents are very small, but the continents themselves are hundreds and hundreds of miles across. On them are great countries,

with cities, and millions of people. Our own country is but a part of a continent. Ask your teacher to point to the continent where we live.

WESTERN HEMISPHERE.

The great body of water which surrounds the continents, and forms three-fourths of the surface of the earth, is called the *sea*. How large it must be! We may sail upon it for weeks without seeing land. The sea is divided into parts called oceans. These, also, are very large.

Anything which is round like a ball is called a globe, or a sphere. The word "hemi" means half. Hemi-sphere means half a sphere. Now, as each picture represents one-half of the earth, which is called a globe or sphere, we say it is the picture of a hemisphere. One is the Eastern, the other the Western, Hemisphere.

Written Exercise.—The —— of the earth is made up of ——. There is much more —— than ——. The large —— of —— are called ——. The smaller —— are called ——. The great —— of —— is called the ——. The —— is divided into parts called ——. Anything which is —— is called a —— or ——. The word —— means half a ——.

Globe Work.—Show pupils how land and water are represented on the globe. Point out the continents, islands, seas, and oceans. Have pupils judge of the comparative size of land and water. Does the water surround the land? Are the oceans connected?

NOTE.—The teacher should make an earnest effort to procure a globe, and should prepare for the intelligent use of it when provided. Globes are now so cheap that there is little excuse for trying to get along without them.

READING LESSON VIII.

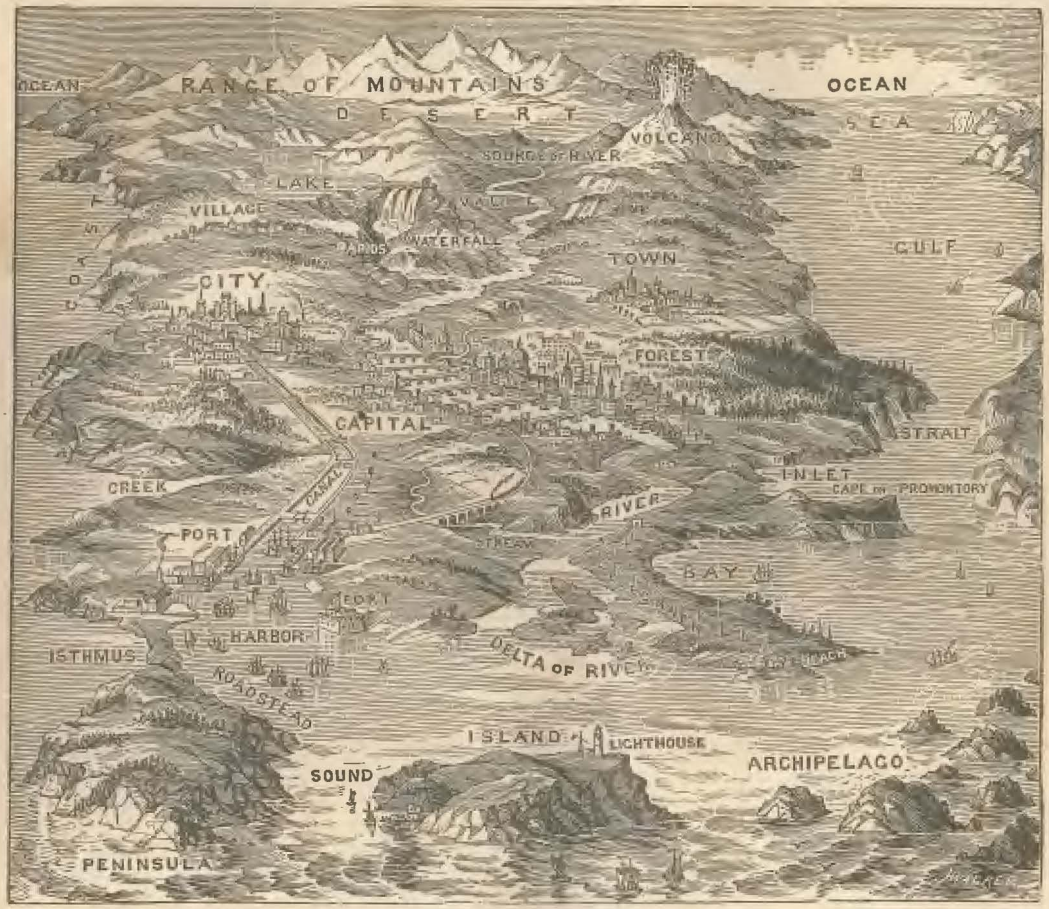
A PICTURE LESSON.

WE have learned about the large bodies of land called continents, and about the sea, and oceans. There are parts, or divisions, of the land, and of the water. The picture will help us to learn about these, and about some things man has made. Look the picture all over, and then write the names of the divisions of land in one column, of water in another, and of things man has made in still another column. When you have done this, you may read the questions below, and try to find out the answers *by looking at the picture.* (See page 10.)

Questions on the Picture.—What is the difference between an island and a peninsula? An island and a lake? What part of your body is an isthmus most like? What does an isthmus do? What part of the water is most like an isthmus? Why? What is the difference between a hill and a mountain? Between a volcano and another mountain? What is the difference between a hill and a valley? Between a mountain and a mountain range? Count the islands in the lower right-hand corner of the picture. Tell the difference between an island and an archipelago. The difference between an inlet, or bay, and a cape, or promontory. Is a coast land or water? Were these divisions made by nature or by man? If made by God, or nature, what may we call them? What is the source of a river? The delta of a river? What is the difference between a waterfall and rapids? Do you think that large boats sail on the river seen in the picture? Why do you think so?

What is the difference between a city and a village? A capital and any other city? A railroad and a canal? Why do the railroad and canal end at the harbor? What is a fort? Why is it built by the harbor? What is the lighthouse for? Why does the telegraph end at the beach? How many kinds of vessels do you see on the water? How many kinds of buildings can be seen in the picture? Is there anything to show what the people of the cities and villages do for a living? Do you think they have much trade with people who live far away? Why do you think so? Do you think there is much trade on the land? Why do you think so? How is the trade on the land carried on?

NOTE.—Such lessons will lead the pupil to observe very closely. They will awaken thought. The child should look at the pictures of objects to be compared, and state what the points of difference or resemblance are. He is asked the difference between a lake and an island. He *sees* that one is *water* surrounded by land, the other, *land* surrounded by water, and gives an answer. Do not make haste to answer *for* the pupil.



DIVISIONS OF LAND AND WATER.

READING LESSON IX.

MORE ABOUT THE LAND.

WE will now talk about some of the divisions of land. Every child knows that some parts of the land rise higher than the country around them, and that such parts are called hills. Hills are often so low and free from stones that farmers can plow upon their sides and tops. In some places they are high, and steep, and rocky.

A very high hill is called a mountain. Some mountains are so high and steep that the strongest men have not been able to climb to their tops. Far up their sides it is so cold that nothing can grow, and the snow lies there when it is hot summer weather below.

Mountains generally stand in long ridges, with high points, or peaks, here and there, connected somewhat like the links of a chain. Such ridges form a mountain chain, or range.

Sometimes a mountain peak has a large hole in the top, called a crater, from which rises smoke and flame which can be seen far away. Melted stones and red-hot cinders are thrown high above the crater, and streams of melted matter, called lava, run down the sides of the mountain. Houses, villages, and whole cities have been buried by the lava.

We know that the land between hills or mountains is called a valley. Here fine farms are often found, with cool springs gushing from the hillsides, and brooks winding through the meadows. Some valleys are very narrow, and others are

wide. We shall learn of those that are hundreds of miles across, and contain thousands of farms, and many, many people.

Written Exercise.— Hills are —— of the —— that —— higher than the country around. A —— is a very high ——. Some mountains are so —— and —— that men —— to their ——. A mountain that has a —— in its ——, from which rises ——, is called a ——. Cities are sometimes —— by —— from a ——. A valley is —— between ——. Some valleys are ——, and contain ——.

Local Work.—Talk with pupils about natural features of the township where the school is taught. Give meaning of summit, slope, base; of source, mouth, tributary, right bank, and left bank. Have pupils draw map of township, locating such physical features, roads, villages, school-houses, etc., as you deem best. Speak of boundaries. Ask pupils to find pictures of mountains, volcanoes, etc.

READING LESSON X.

STILL MORE ABOUT THE LAND.

SOME of the children who read these lines live on the prairie, where the land is level or rolling, and no groves are seen for miles around their homes. In the summer, the wild grass and flowers grow everywhere on the unbroken land. In the autumn, prairie fires burn the dead grass, and they sometimes consume stacks of hay and grain, or the dwellings of the poor settlers.

In the older portions of the country, the prairies are dotted with farm-houses, school-houses, churches, and villages. Groves have been planted or have sprung up in all directions.

In some parts of the world, prairies are called pampas; in others, they are known as steppes. A level tract of land, either with or without trees, is often spoken of as a plain. A high or elevated plain is called a table-land, or a plateau.

In some lands there are places where we can go for long distances without seeing a tree, a bush, a blade of grass, or any green thing. For days and days the traveler finds nothing but sand and rocks. The hot sun beats down upon him. The dry winds drift the sand, and his eyes are blinded by its glare. There is no water to quench his thirst. There is neither rain nor dew. What a dreary region this is! It is called a *desert*.

How glad the traveler must be when he comes, at last, to a fertile spot in the desert, where there are water and shade. Such a spot is called an *oasis*. The patient camel is called the "Ship of the Desert." He carries his burden across the desert as the ship bears its freight, or load, over the sea.

In some stream or lake, if not in the great sea, you have seen land surrounded by water, and you know very well what an *island* is. There are so many islands that they never have been counted. Some of them are small, and others are large. Some are mere banks of sand, or ledges of rock without trees or small plants, and others are very fertile.

Written Exercise.—Some children —— on the —— prairie where no —— are seen —— around their ——. In summer, the —— grow ——. In autumn, —— burn ——. In the older portions —— the —— are dotted with ——. A level tract of —— is called a ——. A —— plain is called ——. A large tract of —— where nothing —— is called a ——. The camel —— the ship of ——. An island is ——. There are —— islands that they ——. Some islands are mere —— sand, and others ——.

Local Work.—Talk about leading physical features of your county, mentioning objects of special interest, such as waterfalls, beautiful lakes, etc. Have pupils draw a map of the county, sketching important features only. Locate cities and villages. Use a wall map of the county. Give pupils practice in rapid sketching on the board, and on slates or paper. Require them to sketch a river, a lake, a range of hills, or a township.

READING LESSON XI.

MORE ABOUT THE WATER.

WE will now talk about the divisions of water. At the foot of the hill, the water flows from the earth and forms a small stream, called a rivulet, or rill. Here and there the rill unites with other streams, and it soon grows so large that it is called a creek, or brook. Brook after brook flows into it, as it moves on its way, and the stream becomes so broad and deep that people call it a river. If we follow this river, we may find that it runs into another river, into a lake, or into the sea.

Sometimes a river plunges over a ledge of rocks, or rushes down a steep place in its bed. Here we often find mills and factories. The water is made to turn wheels of iron or wood.

We say they are driven by the water, or by water-power, and they move all kinds of machinery.

Where there are mills or factories, there must be hands to work in them, and they must have houses to live in, clothes to wear, food to eat, and many other things. So, carpenters and masons go there to build houses; tailors and dress-makers, to make clothes; shoemakers, to make shoes; butchers, to sell meat; merchants, to furnish goods; and teachers, to look after the little boys and girls. Now we see why it is that villages and cities grow up where there are falls or rapids to furnish water-power.

We have learned what a lake is. Some lakes are very large and deep. Hundreds of ships sail upon them, and great cities are built on their shores. Salt lakes are sometimes called seas.

There is one division of water which has different names. In our own country, where a body of water is partly shut in by the land, it is called a gulf or bay. In some countries it is called a sea. Ask your teacher to point out a gulf or bay, and a sea, on the map.

Written Exercise.—When the stream starts on its journey it is often very ——, and is called a ——. It is joined by other ——, and soon grows larger. We then call it a ——. Brook after brook —— into it until it becomes so —— and —— that people call it a ——. Sometimes a river —— over a ledge, or —— down a ——. Mills and factories are often —— at such ——, because the falls or rapids furnish ——.

Local Work.— Speak of *natural* advantages of cities or villages in the county. Show *why* they are built where they are. Call attention to map of the state. Speak of its great rivers, lakes, etc. Show that the state is made up of counties. Locate the capital and a few other cities. Give boundaries.

NOTE.—Lead pupils to see what is meant by the source, mouth and channel of a river; the inlet, outlet, and shore of a lake; the coast and beach of the ocean. Have pupils find natural divisions of land and water on the maps and in pictures. With streams and lakes near by, the teacher need have no difficulty in developing ideas of things beyond the child's horizon.

READING LESSON XII.

DAY AND NIGHT.

THE sun gives us light. We have day when the sun shines upon us, and night when it sets. Ever since we can remember, we have had day and night. The sun never forgets to rise and set. Why is it not day all the time? Why is it not night all the time? Let us see if we can find out.

BALL IN LIGHT.

The boy in the picture has thrust a rod through his ball. He holds it before the lamp. We see that the light does not shine all over the ball. One-half of it is in the light, and one-half is in the dark. Now, can we think of ants or other tiny creatures living all over the boy's ball? Then those ants on the side of the ball where the lamp shines have day, and those ants on the dark side of the ball have night.

If the boy turn the ball half-way round, so as to bring the dark side into the light, and the light side into the dark, then the ants that are now in the dark will be turned into the light, and have day; and those now in the light will go into the dark, and have night. What will make a change from night to day? From day to night? Turning the ball.

Now, we have learned that the earth is a ball. The sun shines on one-half of it all the time, just as the lamp shines on the boy's ball. The people who live on the side of the earth now toward the sun, have day; and those who live on the side away from the sun, have night.

It would be day all the time to those now on the light side, and night all the time to those now on the dark side, if the earth stood still. But it does not. It keeps turning all the while, bringing one side and then the other into the light or dark. We have day and night because the earth turns, or *rotates*.

When the earth turns so that the people who are in the dark begin to see the sun, it is sunrise to them. When it turns so that the sun is almost

overhead, it is their noon. When it has turned so far that the sun is going out of sight, the sun is setting.

The boy's ball turns on a rod, which we call its axis. The earth has no rod of iron or wood thrust through it, but it turns as if it had, and we say that it turns on its axis. It takes the earth twenty-four hours to turn once round, and so our day and night taken together make twenty-four hours.

We have the bright light of the sun when the people on the other side of the earth see the moon and stars. The little Chinese boys and girls are rubbing their eyes to wake up, when the children here are getting so sleepy that they can hardly keep awake, and are thinking that they will be sent to bed.

Written Exercise.—The —— gives us ——. We have —— when the —— shines ——, and —— when it ——. The people who live on the side of the —— toward the —— have day; and those who live on the —— away from the —— have ——. It would be —— all the —— to those on the light ——, and —— all the time to those on the ——, if the earth ——. But it does ——. It keeps —— and bringing —— and then the —— into the —— and ——, giving us ——. The earth turns on —— once in ——; so our day and night —— are —— hours ——.

Globe Work.—Use a globe or ball to make every point clear. Give the pupils a place on the globe, and mark it plainly. Use a lamp for the sun. Ask pupils to watch the globe as you cause it to rotate, and tell when it is day and when it is night; when sunrise, noon, sunset, and midnight. Speak of the axis and poles, and of rotation.

READING LESSON XIII.

THE SEASONS.

WHAT a strange old earth this is! We have just learned that it turns on its axis, and we are now to learn that it moves in a great ring round the sun once every year.

A boy can walk round a lamp so that its light shall shine on a ball that he holds in his hand, as the sun shines on the earth. He will soon get tired and stop. But the earth needs no rest. Faster than any bullet flies, on and on it goes. It never stops on its long journey round the flaming sun, nor has it been tardy a moment for thousands of years!

The sun gives us light and heat, but we get more of them at one time than we do at another. In the morning, and late in the afternoon, when the sun is low, it is not so warm as it is at noon, when it is high and shines almost straight down on our heads, and on the earth. So we see that we get more heat when the sun is *high* than we do when it is *low*.

As the earth moves in its great ring, or orbit, round the sun, it goes in such a way that the sun is almost over our heads, at noon, during a part of the year. Then we have summer. Toward the latter part of summer, we see that the sun is getting lower and lower, and that the weather is growing cooler and cooler. Fall, or autumn, is here.

At last, the sun is very low. It is no longer over head at noon, but far to the south. It is winter. By and by, the sun seems to climb higher and higher, the weather grows warmer, and we have spring. Winter, Spring, Summer, and Autumn are the four seasons of the year.

Winter brings snow and ice. We have fine sleigh-rides behind the jingling bells. Our hand-sleds are brought out, and we glide down the hill-sides. We move swiftly over the glassy lake. On warm days, the boys make snow men, and snow forts, and the white balls fill the air.

Spring comes, and the snow is soon gone. The grass comes up, and the flowers fill the air with fragrance. Birds build their nests in the bushes and trees, and in many curious places. Young lambs, and pigs, and calves, and colts have their plays.

Summer is here, and the days are long and warm. How the corn grows! The hay is made and drawn in great loads to the stack or barn. The wheat, and oats, and barley are now cut, and stacks are seen on every farm.

Autumn is now with us, and frosts appear. The yellow corn is husked, and stored in the crib. Potatoes and garden vegetables are brought to the cellar. The turkeys grow fat. Thanksgiving is here, and all are happy!

In some countries there are but two seasons,

called the *wet* and the *dry*. In others the summers are very short, and the winters are very long and cold.

Written Exercise.—Tell your teacher what you can about the journey of the earth, the sun in summer, and in winter, and about the four seasons. It will be well to write on the slate, at first, and then copy into a book. Keep all that you write.

NOTE.—Do not undertake a *full* explanation of this subject at this stage of the pupil's progress. The "low sun" of December and the "high sun" of June may be explained by a skillful use of the globe. To call attention to a fact which the pupils have observed, is all the author has thought best to attempt.

The skeleton summaries will now be dropped. For a time, the chief points of the reading lessons will be given to aid pupils in the preparation of their work. The abstract of the lesson for one day may be read on the next. It will furnish a kind of review.

READING LESSON XIV.

CLIMATE AND ZONES.

WE hear a great deal of talk about the weather. Sometimes it is very warm; at other times it is very cold. When it is neither very warm nor very cold, we call it mild, or moderate. We have long spells of rainy weather, and the air is then damp, or moist. When there is no rain for a long time, we say the weather is dry.

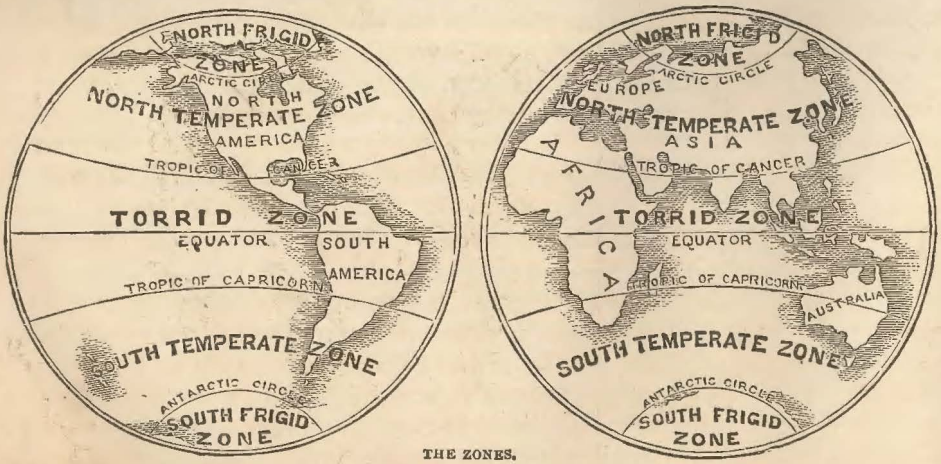
Some parts of the earth are always very hot; some are always very cold; others have about as much heat as cold. In some parts, it rains a great deal; in others, rain hardly ever falls; there are parts, also, where it rains just about enough.

Instead of using the word *weather*, when we speak of the heat or cold, the moisture or dryness of a country, we generally use the word *climate*. Those countries which have very much more hot than cold weather, are said to have a hot climate. A country which has cold weather most of the year, has a cold climate; and a country where the cold weather and the hot weather for the year are nearly equal, has a temperate climate. Some countries have a moist, and others a dry, climate.

Zones.—We have had a *picture* of the hemispheres, and here we see a *map* of them. That part of the earth which receives the most heat, and also the most rain, is called the Torrid Zone. This zone lies between the Tropic of Cancer and the Tropic of Capricorn. It extends clear round the earth. The line called the Equator divides it into halves.

Those parts of the earth where the heat and cold are nearly equal, and where there is rain enough to produce good crops of grain and grass, are called the Temperate Zones. The North Temperate Zone lies between the Tropic of Cancer and the Arctic Circle. This is the zone in which we live. The South Temperate Zone lies between the Tropic of Capricorn and the Antarctic Circle.

Those portions of the earth that are very cold are called the Frigid Zones. The North Frigid Zone lies north of the Arctic Circle and extends to what is called the North Pole. The South Frigid Zone lies south of the Antarctic Circle and extends to the South Pole.



THE ZONES.

We see that there are five zones, each extending entirely round the earth, like a belt or girdle about a man. The word zone means belt or girdle.

There is no winter in the Torrid Zone, except in high mountain regions. In that zone the children never need hand-sleds, furs, nor mittens. The hot

sun is overhead every day, and they have hard work to keep cool. Santa Claus has to carry his great loads of toys on wheels. His beard is never filled with frost.

In the Frigid Zones there are great hills of ice and snow. The sun is never seen overhead. It is always very low. At the poles, the sun is out of sight for six months every year. Some people manage to live in the warmest part of the north Frigid Zone. The children get no fruit, nor potatoes, nor bread. Their mothers feed them on blubber, and give them oil to drink.

Written Exercise.—Write about the weather, or climate, and each of the zones or belts of the earth.

Globe Work.—Point out the Equator, the Tropics, and Polar Circles on the globe and map. Have pupils cut strips of colored paper of the right width to cover the Torrid and Frigid Zones, and lay them on the map, or extend about the globe. This will help to fix the place and extent of each zone in the mind. Use a ball, if no globe is at hand. Talk about the climate of our own state.

READING LESSON XV.

PLANTS.

PLANTS are things which grow from the ground. They must have heat to keep them warm, light to give them color, and water to drink. Some need a great deal of heat, and others grow best where it is cool. Some thrive where it is dry, and others where it is wet. Each zone has plants of its own.

In the North Temperate Zone there are oak, maple, elm, poplar, ash, cottonwood, pine, walnut, and many other trees, which are used for fuel or lumber. Here are apple, pear, peach, and plum trees in the orchards. Wheat, corn, oats, barley, and rye grow in the fields, and potatoes, beets, and other vegetables in the gardens. Roses and violets are found everywhere. In the warmer parts, the rice-plant, tea-plant, cotton, sugar-cane, the orange, and the lemon tree are found.

In the Torrid Zone there are more plants than anywhere else. The trees and climbing vines are sometimes so thick, and so woven together, that men can not pass through the forests without cutting their way with axes. Here are groves of palm, India-rubber trees, and thickets of bamboo. Nutmegs, cinnamon, cloves, and pepper are found. Pine-apples and bananas are among the delicious fruits.

If we go to the Frigid Zone we shall see no trees nor pretty flowers. Mosses are almost the only plants. What a dreary region this is.

Written Exercise.—Tell your teacher what plants are, and what they must have. Name some of the plants found in each zone.

Local Work.—Converse with pupils about the plants they have seen. Have them bring lists of plants which are used for food, clothing, fuel, building, machinery, oil, coloring, or medicine. See that the work is neatly done. Ask what woods are most used for making houses. For furniture. Ask them to tell you about fruits and plants which we bring from the Torrid Zone.

READING LESSON XVI.

ANIMALS.

ANIMALS have their homes. Some can not live where it is very warm, and others would soon die where it is cold. Different animals live in different zones. Most of those which are used by man live on vegetable food.

We find the greatest number of these in the Temperate Zones. Here are the horse, the cow, the sheep, which have their home with man and are called domestic animals. The buffalo, the elk, the deer, the bear, the wolf, and the kangaroo are the principal wild animals.

The Torrid Zone has more animals than any other. The huge elephant, the lion, the tiger, the tall giraffe, the hippopotamus, and the rhinoceros are found there. The playful monkeys hop from branch to branch, and grin at each other from the tree-tops. There are snakes many feet in length, ready to wind about men and animals and crush them in their folds.

There are parrots, flamingoes, and other birds, with beautiful feathers, but most of them can sing no better than a crow or a goose. In some parts of this zone are great numbers of insects. Thousands of beautiful butterflies flit over the pools, and millions of fireflies may be seen at night.

The Frigid Zone has few animals. The reindeer, that feeds on moss, which he often finds covered

ANIMALS OF DIFFERENT ZONES.

A Picture Lesson.—In this picture we see some of the animals of the different zones. In the North Temperate Zone are the bison, the grizzly bear, and the elk. The bear, with open mouth, is walking toward the bison, whose head is thrown down ready for the fight. No doubt the bear expects to have several good meals, when he has killed the bison and dragged him away. Do you think he will be able to do this? Will the elk fight the bear?

In the North Frigid Zone, a white bear is seen on a field of ice. A seal, not far away, seems to be watching him quite closely. In the distance is a man in a small boat, who lives with his family and neighbors in the ice huts. The northern lights shine above the icebergs.

In the South Temperate Zone, the llama, the goat, the hog, and a hard-shelled animal called an armadillo, appear to be quite at home; while in the South Frigid Zone, the whale has it all to himself, and is throwing up a jet of spray that glistens in the starlight of the polar night.

In the Torrid Zone, the animals do not seem to be on very friendly terms. The leopard was taking a quiet nap under the tree, when the hungry crocodile crawled that way. How lively the leopard seems! The serpent darts its tongue at the tapir, whose long nose is turned toward his enemy coiled about the tree. Do you think there will be trouble between them?

with snow; the white bear, that can have a good night's sleep with her cubs under a cake of ice; the arctic fox, with his thick fur; the seal and the walrus, that like ice-water baths; and the dog, that shares his master's bed, are nearly all.

We must not forget that animals live in the sea, as well as on land. Some delight in cold water, and others in warm. Fish have their zones. Most of those that we use for food, such as the cod, the mackerel, and the herring, are found in cool water. The whale is the largest of animals. The "razor-back" whale is the longest creature known. It is sometimes more than one hundred feet in length. It lives in northern seas.

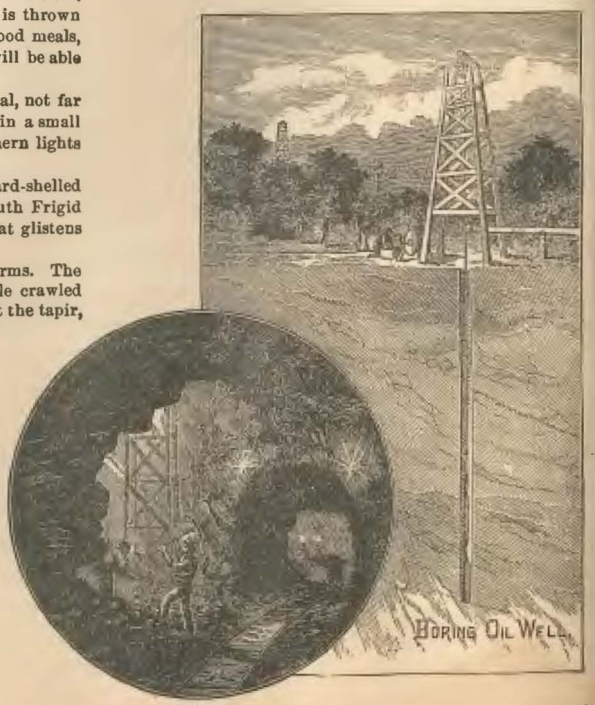
Written Exercise.—Write what you have learned about the animals of the different zones, and of the sea. Tell how many of these animals you have seen.

Local Work.—Talk about the domestic and wild animals found in your locality. Speak of their homes, habits, and affections, and ask *where* we find the pheasant, bob-o-link, robin, etc. Bring lists of *useful* animals, and tell what makes them useful, *e. g.*, The robin, wren, and quail destroy many insects, and are very useful to farmers and gardeners.

READING LESSON XVII.

WHAT WE FIND UNDER THE LAND.

MANY very useful things are found in the earth. Most of the salt with which we season our food is made from salt water, or brine, which is pumped from wells, and boiled in large



MINING.

pans over the fire, until the water is dried up, or evaporated, and the salt is left behind. In some parts of the world, the salt itself is dug from the earth. It is sometimes found many feet below the surface.

The kerosene oil with which we light our homes also comes from wells. The coal that burns so brightly in the grate; the clay of which brick are made; the limestone, the sandstone, the granite, used in building; the gold, and silver, and copper, of which money is made; and iron, so plain and yet so useful—all come from the earth, and are called minerals.

Some minerals, such as iron, copper, lead, silver, and gold, are called metals. Gold and silver are precious metals. There are also precious stones, such as the diamond, which shines like a sunbeam, the ruby, and the emerald, and others, that are worn for ornament.

Written Exercise.—Tell what you have learned about salt, oil, coal, minerals, metals, and precious stones. Do you know of anything else that is found under the earth?

Local Work.—Converse with pupils about the quarries, brick-yards, lime-kilns, mines, etc., found in the county. Have pupils tell how the material obtained from these quarries, etc., is used. Where it goes. How it goes. Ask them to describe the process of brick-making, etc. Speak of noted mines, quarries, etc., in the state, and point out the location on the map.

READING LESSON XVIII.

WHAT MEN DO—OCCUPATIONS.

WE all need food to eat, clothes to wear, houses to shelter us, and many other things to make us comfortable and happy. We can not live as some men do in hot countries, where bread grows on trees, and milk may be had from the cocoa-nut. We must work hard for what we get. What a man does for a living is called his occupation.

Raising wheat, oats, corn, and other grains and plants, is called farming, or agriculture.

Many of our warmest and best clothes are made of wool, which comes from the sheep. Those who keep a large number of sheep for their wool, are wool-growers.

Questions on the Pictures.—How many leading occupations are shown in these pictures? Write about all the things you can see in the upper picture.

Is the vessel at the wharf a sloop, a schooner, or a ship? How many masts has it? Is it being loaded or unloaded? How are the boxes and packages lifted from its hold? Do you think that this vessel sails on the ocean? Why do you think so?

Are the men in the lower picture manufacturing wooden, iron, or leather goods? Why do you think so? What kind of power is used? Write about all that you see in this picture. Why does the corner of the shop seem to rest on the products of the farm?

Which is the most important occupation represented? Why is the mast of the ship made to connect the three pictures? Is the city on a river? Is there anything in the picture to show what city is represented?

In some places in the West, there are large sheep ranches. On these, thousands of sheep are herded, summer and winter, by men who do nothing else. These men often live for months with no other company but their faithful dogs and the baaing sheep.

Our houses are made of wood, or brick, or stone. The men who build houses of wood are called carpenters. Those who lay brick or stone are masons.

Our houses would do us little good without furniture; the farmer and carpenter must have tools; the wool and cotton must be made into cloth, and the cloth into clothes; the wheat and corn must be ground; boys must have jack-knives, and little girls must have scissors and thimbles. So there must be people whose business it is to make what other people use. Those who do this are said to manufacture.

To make houses, and furniture, and tools, men must have wood and iron. People must go into the forest to cut the trees, draw the logs, and saw them. This is lumbering. Others must dig the iron or other metal from the earth. This occupation is called mining.

We raise more grain and meat than we want. They are sent on the cars or boats to feed people who have not enough. Those who buy our grain and meat send us cloth, boots, books, fruit, or anything they have to spare. The business of exchanging goods or products is called commerce.

When we send what we have to sell to other lands, it is called exporting. When these lands send what they have to sell to us, we call it importing. We send beef, and pork, and wheat, and cotton, to lands across the sea, and they send us cloths, silks, tea, coffee, raisins, and many other things. This is the reason why so many great ships go and come on the sea, and so many cars run over the land.

Written Exercise.—Tell, in your own words, what manufacturing, lumbering, mining, commerce, exporting, and importing are.

Local Work.—Pupils to bring neatly written lists of occupations pursued by people in township, county, and city; and tell what each class raises, manufactures, or deals in. Have them make a list of things we export. Import. In what way are they sent or brought? Speak of great routes of commerce leading to our doors.

READING LESSON XIX.

GOVERNMENT.

WHEN we talk about our school we say that tardiness and whispering are against the rule. We may use another word for rule. It is the word law. The teacher makes the rules, or laws, which every pupil should obey.

We know very well that all men are not good. Some men will steal what others have worked very hard to get. Bad men sometimes burn houses, or take life. They do many other wicked things which cause much trouble. We must have rules, or laws, to keep bad men from doing harm.

To have good schools, all the people must join to build school-houses, to hire teachers, and to raise money to pay their wages. So we need rules, or laws, to tell us how to do these things, and make every man pay his share of the expenses.

When we wish to send a letter to a friend, we can not hire someone to carry it. What trouble there would be if people had no way of sending their mail! We must have a post-office, and mail routes must run to every part of the country. Stages, horses, cars, and boats must carry our letters as fast as they can. Then we need laws to tell how and when the mail shall be carried, and what the postage shall be.

We need laws for a great many things besides those we have spoken of. Who shall make the laws? Can the people all come together to do it? What a crowd there would be! We will choose men to go to the capital of the state to make laws for us; men will also be chosen from other parts of the state. Those who are chosen will meet at the capital, in a building called the capitol, and make laws to prevent wrong-doing, to help our schools, and many other things. Such a meeting, or body of law-makers, is called a Legislature. The Legislature makes laws for the state.

The people of every state choose men to go to Washington, the capital of the United States, to make laws for the whole country. This body of men is called Congress. Congress makes laws which relate to post-offices, to the Indians, to commerce, and to other things which you can not now understand.

But our laws would do us no good without men to see that they are kept, or obeyed. The law punishes thieves, and others who do wrong. But who will catch the thief? We must have a constable, a marshal, or a sheriff to catch, or arrest, the wrong-doer, and a justice or judge to try him, in order to find whether he is guilty. We must have school trustees, superintendents, and postmasters.

Now, the men who see that the laws are kept, or obeyed, are called officers. We have school district laws, and school district officers; town or city laws, and town or city officers; county laws, and county officers; state laws, and state officers; United States laws, and United States officers. The chief officer, or ruler, of a state is called a Governor. The chief ruler of the United States is called a President.

Making laws, and causing them to be obeyed, is government. A country like ours, where the people choose their own rulers, is a Republic. A country where the chief ruler is not chosen, but gets his place because his father or mother ruled before him, is called a Kingdom or an Empire, and the ruler is a King or Queen, an Emperor or an Empress.

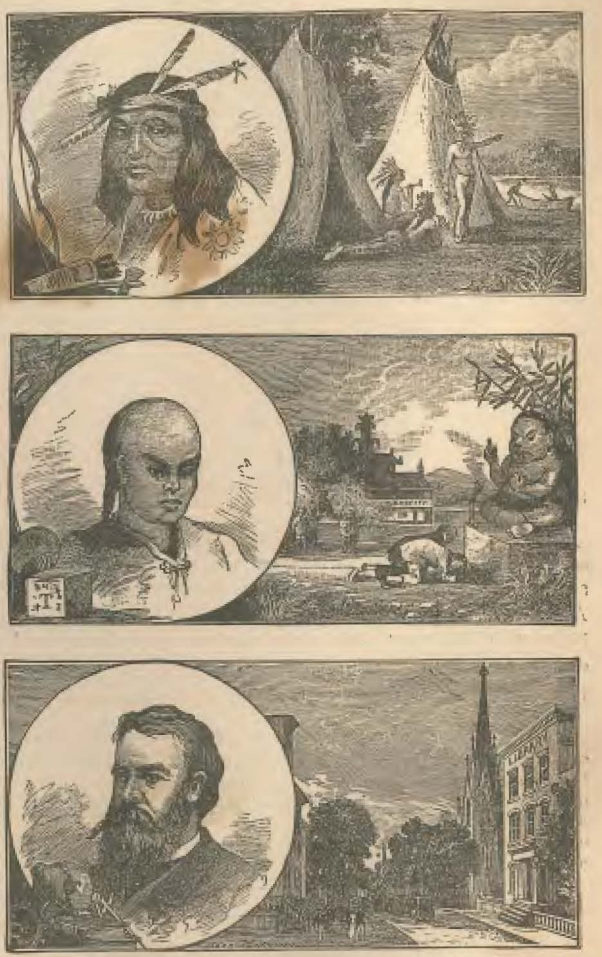
Written Exercise.—What body makes laws for the state? For the United States? Who see that the laws are obeyed? Who is the chief officer of the state? Of the United States? What is the difference between a republic and a kingdom?

Local Work.—Converse with pupils about town, county, and state officers. They may learn that a county superintendent has charge of the schools; that a treasurer has charge of the public moneys; that a judge holds courts, and so on. The dry details of duties, terms of office, time and manner of election, qualifications, etc., should be reserved for later years.

READING LESSON XX.

HOW MEN LIVE.

THE people in different parts of the world do not live in the same way. If we go among the Indians, we shall find them living in huts made of poles covered with bark, skins, or cloth. The fire is built on the ground, and the smoke goes up through a hole in the top of the wigwam, as their hut is called. Hunting and fishing are the principal work of the men; and flesh and fish are the chief food. They have no plows, roads, books, or schools. People who live in this way are called savages.



SAVAGE, CIVILIZED, AND ENLIGHTENED MEN.

Questions on the Pictures.—Which of these men is a savage? What do we see in the picture to show this? Which man belongs to the enlightened class? Speak of everything in the picture that makes you think so. What is there in one of the pictures to show a civilized state of society? Which picture shows the highest and best state? (The Chinese are not a nation of idol worshipers, though some classes bow before images, as the artist represents.)

There are people who have horses and cattle, and get their living by pasturing or herding these. They, too, live in tents, and wander from place to place to find fresh pasture for their stock.

They are ignorant of books, and have no schools. Such people are half-civilized.

There are others who have books, and schools, and comfortable houses, and large cities. They cultivate the soil, spin and weave, and are very skillful in many kinds of work. They are called civilized people.

Others still have the best of schools, churches, newspapers, and books, for old and young. They have railroads, steamboats, mills, factories, and all kinds of machinery for the farm and shop. These people are enlightened.

Races of Men.—There are five races of men. They do not look alike. The white race is called the Caucasian. It is the ruling race of the world. We see many black men whose forefathers were brought from Africa. They belong to the Negro race. The red men of our country lived here when it was discovered, and they are known as the Indian race. Then there are the yellow, or Mongolian, race, to which the Chinese belong, and the brown, or Malay, race.

Written Exercise.—Write what you have learned about savage, half-civilized, civilized, and enlightened people. About the races of men. Have you seen a Mongolian? Malay? Indian? Are there men among us who act like savages? Which class is the most happy? Why do you think so?

Local Work.—Talk about the races that are represented in our county and state. Do the people who come here from the countries of Europe belong to our race? What may we call those among us who will not work, and are ready to fight, rob, and murder? Are they savages? Are those who do not care for papers, books, or schools, civilized? Do savages take good care of the poor? The sick? Do they desire to improve.

MISCELLANEOUS REVIEW.

[Some of the questions below are too difficult for a young pupil to answer. They have a direct bearing upon the points treated in the several reading lessons, and are designed to awaken thought. Such questions should not be neglected by teachers. Some of them may be taken home by pupils to be discussed at the fireside. Others may be answered by the well-informed instructor, who wishes to go beyond and above the mere routine work of the school-room. The author thinks it no sin to propound a few questions which call for a little extra effort on the part of those who are engaged in the work of teaching.]

1. How are we aided in telling directions? Can you find the North Star? In what way? How did sailors get along before the compass was invented? What people first used the compass?

2. How many ways of measuring distances can you name? Have you seen a surveyor's chain? How is it made? How do sailors measure the depth of water?

3. How many things can be told by looking at a good map? What is the difference between a map and a picture? Why do we not use pictures of countries instead of maps?

4. How do we know that the earth is round? Take a globe and show how things go out of sight when moving round it. What will be the shape of the shadow which your ball will cast on the wall, if you hold it before the lamp, to-night? Have you ever seen the shadow of the earth? Where?

5. Why is the surface of the school-globe made so smooth when the surface of the earth is so uneven, or rough? What divisions of land are found in your county? What divisions of water? How many have seen a mountain? How many pictures of mountains can be found in this book? How many volcanoes can be found? Of what use are hills? Rivers? Lakes?

6. Take a globe or a ball, and show how it is that we have day and night. In what month do we have the shortest night? The shortest day? On what part of the earth are the days and nights always of equal length? What portions of the earth have very long days?

7. What zone has no winter, except on its high mountains and plateaus? Is there any place where one can live and have spring all the year? What season is it in the South Temperate Zone to-day? Is December a winter or a summer month in that zone?

8. Which zone has the most plants and animals? The fewest? Could the animals of the Frigid Zones live in the Torrid Zone? Name five of the most useful cultivated plants. Name five of the most valuable trees. Which is the most valuable for common lumber? For fruit? For clothing?

9. Make a list of useful things found under the land. Which of these is most useful? Why? Which is most costly? How many of these things are found near your homes?

10. How many occupations are carried on in your neighborhood? Name six of the most useful occupations. Would men be better off to live without work? Can men work hard without using their hands? Do enlightened people do more work than those who are half-civilized or savage?

TOPICAL REVIEW.

Require pupils to tell what they know about each of the following topics:

Direction — Distance — Maps — Form of the Earth — Surface of the Earth — Divisions of Land — Divisions of Water — Day and Night — The Seasons — Climate and Zones — Plants — Animals — What is found under the Land — What Men do — Government — How Men Live — Races of Men.

READING LESSON XXI.

THE HEMISPHERES.

WE have learned that the earth is a globe, or sphere, and that a half-sphere is called a hemisphere. We have seen a picture and a small map of the Eastern Hemisphere, and of the Western Hemisphere. Taken together, they are called the Map of the World.

We must not forget that the map of the Eastern Hemisphere represents the land and water on one-half of the earth's surface, and the map of the Western Hemisphere represents the land and water on the other half. We must think of these maps as showing opposite sides of the earth on which we live.

The larger maps, which we are now to study, will show us where the continents, large islands, and oceans are; their direction from one another; the zones in which they lie, and many other things. Ask your teacher to show you how mountains, rivers, cities, and countries are represented on the map.

Globe Work.—A globe should be used to show where the great divisions of land and water are; their direction from one another *on* the surface of the earth, and *through* the earth; the zones in which they lie; and the meridian circle which geographers have made the boundary between the hemispheres. Let pupils see that the map of the Eastern Hemisphere actually represents one-half of the surface of the globe, and the Western Hemisphere the other.

MAP DRAWING, AND MAP STUDIES.

Teachers will notice that map drawing is made somewhat prominent. It has had its place in the study of local geography, and should be continued. *No complicated or time-wasting system of diagrams should be introduced or tolerated in our schools.* For a time, young pupils may be allowed to place thin paper over the map, and trace the outline of the continent or country they are studying.

It would be a still better plan for the teacher to cut out card-board forms of the continents, of the same size as the maps in the book, and let each pupil have one long enough to mark around it on the slate or paper. With this good outline, it will be easy for pupils to copy from their maps, the mountains, rivers, etc., selected for study. [Consult *Methods of Teaching Geography*, by Lucretia Crocker.]

Map drawing may be made very pleasant, and it fixes the forms of countries, the position of mountains, rivers, etc., in the memory. One hour of this work is worth many hours of ordinary study. The printing of the proper names on the pupils' maps is an excellent method of memorizing them, and a good drill in spelling.

It will be seen that the questions are so worded that pupils must make good use of their eyes in studying the map. Very many of them call for some exercise of the judgment. We should so guide pupils in their map work that they may see that a map may be made to mean a great deal; that the things represented do not stand as isolated objects, but that they sustain certain relations to one another, and have much to do with man and his work.

A regular or irregular coast can have no special significance to pupils until they learn about commerce, and see that deep indentations and bold projections afford protection to ships; that cities are most likely to grow up where good harbors are found; that railroads are built to carry produce and goods to and from the harbors.

An extensive northern slope has no grand meaning until the teacher calls attention to what every child already knows, and makes an application of the fact that northern slopes, on our side of the Equator, are cold slopes, and that southern slopes are warm. The melting of the snow in spring and the blooming of early flowers have taught the children this, but they saw no connection between this fact and the one we are speaking of.

The same remarks will apply to the zones and to many other things which might be named. Pupils should be led to see that the climate, in a broad sense, determines the character of plants, animals, and men.

The thoughtful primary teacher will be quick to see what her class can grasp, and will make the study of maps something more than a study of names, boundaries, and locations. Her pupils will not look upon a coast, a slope, a zone, a mountain, etc., as a coast, slope, zone, mountain, and *nothing more.* They will see, children though they are, some of the relations which exist, and will be able to interpret the map in a satisfactory manner.

Pupils should be asked to apply the scale to every map, not for the purpose of having them remember the number of miles from one point to another, but to give them some idea of the vast size of the great divisions of land and water, and to enable them to compare the different countries.

Teachers are earnestly advised to have pupils practice off-hand sketching. If the reading lesson relate to a range of mountains, a river, a coast, an island, or a country, ask them to step to the board, or take slates and sketch whatever may be under consideration. Have no formal diagrams. Do the work neatly and quickly. Pupils may be greatly benefited by this practice.

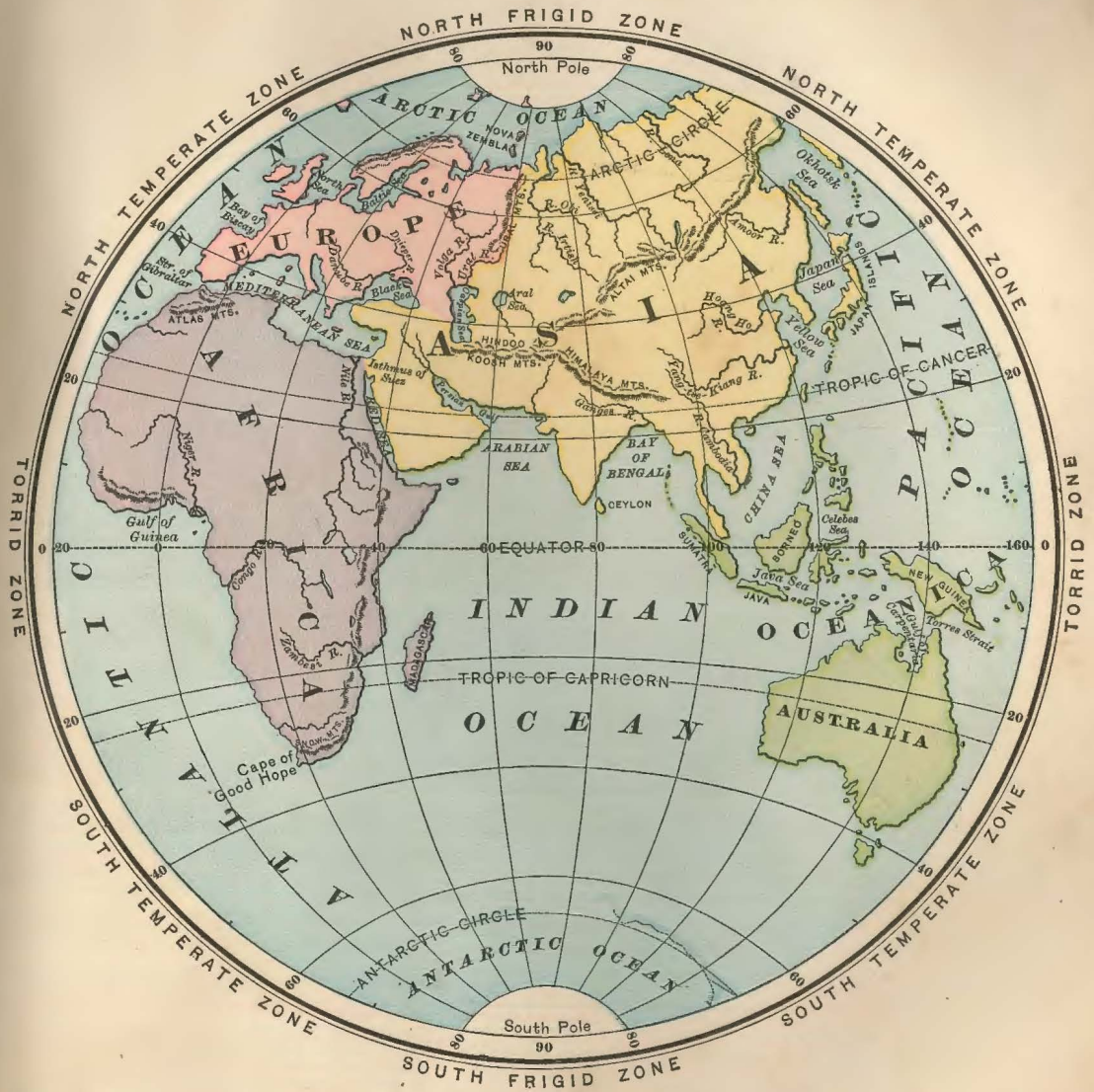
Wall maps should be used for drills on names of countries, cities, rivers, etc., and for frequent reference during the reading lessons. If they are not at hand, do not fail to refer to maps in the book.

WESTERN HEMISPHERE.

Map Studies.—What part of the map is north? South? East? West? Which hemisphere contains the most land? Write the names of all the continents. What continents are in the eastern hemisphere? What continents are in the western hemisphere? Are there any continents which lie in both hemispheres? In what direction is South America from North America? Europe from North America? Australia from South America? North America from Asia? Point toward South America. Europe. Asia.

Which is the smallest continent? Which is the largest? In what direction is each continent longest? Which continents are most alike in shape? How are they alike? Which continent has the most regular coast? Which the most irregular? Write the names of the principal mountains of the world? What continents have long ranges of mountains near their coasts? Are there any continents without mountain ranges? Do the chief mountain ranges run the longest or shortest way of the land? Are the continents connected? By what?

EASTERN HEMISPHERE.



Write the names of all the oceans. What oceans are in both hemispheres? Which is the largest ocean? How many continents does each ocean touch? What ocean would you cross in sailing from North America to Europe? North America to Asia? What ocean has the largest number of islands? Which hemisphere has the most seas? Which hemisphere has the most gulfs and bays? Write the names of the great rivers of the eastern hemisphere. Of the western hemisphere. Which hemisphere has the largest number of rivers?

On which side of the equator is the most land? What continents are crossed by the equator? What zone contains the most land? What zone contains the most water? What zones contain the least laud? Pass your fingers over those portions of the earth where it is always cold. Always warm. Is there any continent which lies wholly in either zone? Write the names of the warmest continents. Of large islands that have a warm climate. Of large islands that have a cold climate. Which zone contains the largest number of islands?

NORTH AMERICA.

Map Studies.—Trace the outline of North America, and print the names of the divisions of water that wash its coasts. Print the names of the great peninsulas. Is the coast-line regular or irregular? Which coast is most regular?

Copy the mountain ranges, and print their names on your map. Where are they? In what direction do the ranges extend? Which is the longest range? Is there any large portion of the continent without mountains? Move your finger over it.

Copy the great lakes and rivers, whose names are given on the map, and print names. What do we call that part of a country drained by a river? Which is the largest valley on the continent? Does the eastern or western part of the continent have the most rivers? How can we tell which way the land slopes? Which is warmer, a northern or southern slope? How many great slopes can you find on this continent?

Trace the boundaries of countries, and print their names. Locate capitals, and print names. Copy the great islands off the coast.

In what zones does North America lie? Which country is warmest? Coldest? Are the waters of the Gulf of Mexico warm or cold? Of the Arctic Ocean? If you were to visit Mexico or Central America would you expect to find many fur-bearing animals? Why do you think so? If you were to visit the Dominion of Canada? Would you expect to find large trees and plants near the Arctic Ocean? Gulf of Mexico? On what part of the continent are the warmest houses needed? How far south do you think sleighs are used?

Is this map drawn on a large or small scale? Make a measure of paper, three or four times the length of the scale, and find the distance from the Isthmus of Panama to Behring Strait. From San Francisco to Boston. Across Mexico on the Tropic of Cancer. If we were to walk forty miles a day, how long would it take to walk the length of North America? From San Francisco to Boston? Across Mexico?

READING LESSON XXII.

SIZE—MOUNTAINS—TABLE-LANDS.

WE have our home on the continent of North America. This grand division of land appears very small, as we look at the map, but we have learned that it is very large. It is thousands of miles from the cold Arctic Ocean on the north to the warm Gulf of Mexico on the south; and thousands of miles from the Atlantic on the east to the broad Pacific on the west.

If we could travel five hundred miles a day, it would take us a whole week to cross the continent where it is the widest. It stretches from the Frigid Zone with its icebergs, to the Torrid Zone with its palms.

Lofty mountains, called in the north the Rocky Mountains, and in Mexico the Sierra Madré (se-er-rah mah'-dray), extend in long ranges from the Arctic Ocean to South America. These mountains are very wild and broken. We must not think of them as one narrow ridge, which we can cross by climbing up one side and going down the other. In most places we must cross ridge after ridge, with peaks here and there, and valleys or table-lands between. We must travel hundreds of miles before we get over these ranges.

On all the lower slopes are dense forests; as we climb the sides we find shrubs, coarse grass, and strange mountain flowers; still higher up are bare rocks, and, above these, are huge peaks, covered with snow all the year. Great herds of cattle are now found in the valleys, and there are rich mines of gold and silver in the mountain sides.

Farther west are ranges, called the Sierra Nevada (se-er-rah ne-vah'-dah) Mountains in the south, and the Cascade Mountains in the north. These ranges are noted for their wonderful valleys, fearful precipices, high waterfalls, and tall trees.

The Grizzly Giant, monarch of the Mariposa groves, is ninety feet in circumference. The diameter of a single log cut from this tree would be higher than most farm-houses, and a large school might be seated in its trunk, if hollow.

West of the Rocky Mountains, extending from the Arctic Ocean to the Gulf of Mexico, are high table-lands, hundreds of miles in width. They are bounded on the west by the Sierra Nevada and Cascade ranges. Rain seldom falls here, and there are no forests. The whole country is a desert, except near the streams which flow from the mountains. The low, brown sage-brush grows in

NORTH FRIGID ZONE
NORTH FRIGID ZONE
ARCTIC OCEAN
GREENLAND
DANISH AMERICA
ICELAND
BAFFIN BAY
Davis Strait
Cape Farewell
Point Barrow
Cape Prince of Wales
Great Bear Lake
ARCTIC CIRCLE
Great Slave Lake
Hudson Strait
DOMINION OF CANADA
HUDSON BAY
LABRADOR
NEWFOUNDLAND
Cape Race
Mount St. Elias
QUEEN CHARLOTTE IS.
VANCOUVER I.
Victoria
Winnipeg Lake
Quebec
Montreal
Cape Sable
Boston
Cape Cod
Cape Mendocino
San Francisco
Point Conception
Minneapolis
St. Paul
Chicago
New York
UNITED STATES
St. Louis
Cape Hatteras
BERMUDA IS.
Arkansas R.
New Orleans
FLORIDA
TROPIC OF CANCER
TROPIC OF CANCER
Cape San Lucas
GULF OF MEXICO
MEXICO
Vera Cruz
YUCATAN
CUBA
HAVANA
GREATER ANTILLES
HAITI
LESSER ANTILLES
CARIBBEAN SEA
WEST INDIES
CENTRAL AMERICA
SOUTH AMERICA
PACIFIC OCEAN
ATLANTIC OCEAN
NORTH TEMPERATE ZONES
NORTH TEMPERATE ZONE
TORRID ZONE
TORRID ZONE
NORTH AMERICA
SCALE OF MILES.
0 100 300 500 1000
100,000 SQUARE MILES
Longitude 35 from Washington 13 West East 7

GREAT FALLS OF THE YELLOWSTONE, NATIONAL PARK.

These falls are 350 feet in height. The water descends in foam as white as snow. It is a sight more beautiful, though not so grand as Niagara. A heavy mist always rises from the water at the foot of the falls, so that one can not approach near without being drenched. For 300 feet, or more, from the bottom, the walls are clothed with a dense matting of mosses, sedges, and grasses, of the brightest green.

the north; and the cactus, a curious plant which needs little moisture, and which we often see in pots in our houses, is found almost everywhere in the south. The little jack-rabbit is about the only animal.

On this table-land are lakes whose waters are so salt that no fish can live in them. They are fed by mountain streams, and have no outlet. In crossing this region the traveler sometimes comes upon a crack or opening in the earth. He may stand at the edge of the crack and look down, down the rocky sides hundreds or thousands of feet. At the bottom he sees a dark stream of water. Such a crack or opening is called a cañon (kan′-yun).

The Colorado River flows for 250 miles through a cañon whose walls of solid rock rise in some places more than a mile above the water. In this distance the river has no valley.

This great cañon forms one of the most wonderful whispering-galleries in the world. A train of cars crossing the bridge at the Needles can be plainly heard, on a quiet day, at Cottonwood Island, a distance of eighty-four miles. The fife and drum at Fort Mojave are distinctly heard at Bull's Head, a distance of eighty-four miles, and the sunrise gun at the fort can be heard at a distance of ninety-six miles.

Written Exercise.—Tell all you can about the size of North America; the Rocky and Sierra Nevada Mountains; the table-lands and Colorado cañon.

READING LESSON XXIII.

MOUNTAINS, RIVERS, AND VALLEYS.

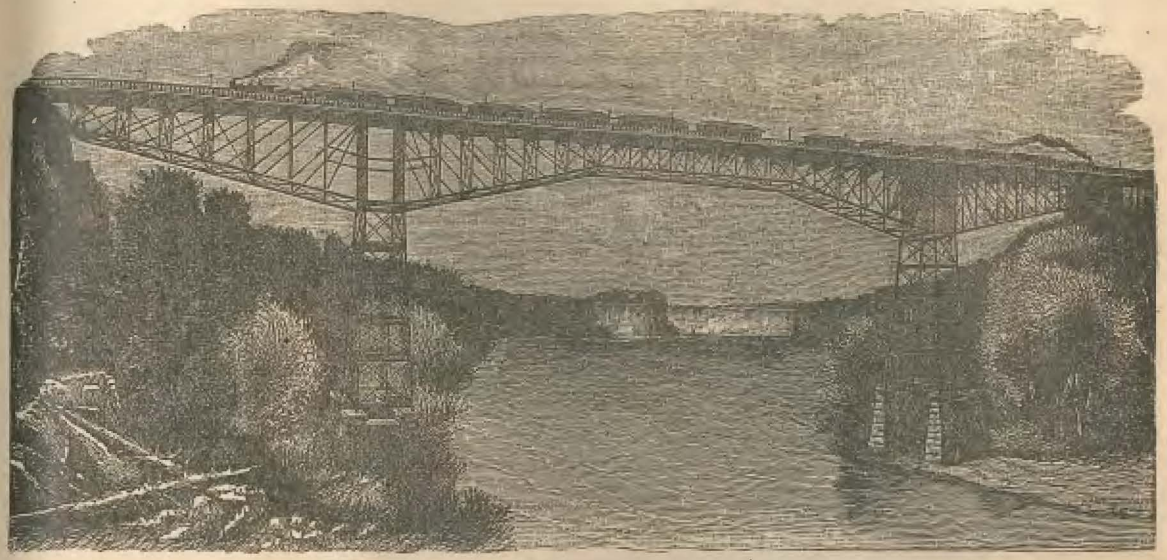
TOWARD the eastern part of the continent are the Ap-pa-la-chi-an Mountains. These are made up of different ranges, and are not so high as the Rocky Mountains. They are covered with forests to their summits. Between the ridges are many long, fertile valleys, with beautiful farms, and clear, rapid streams, where brook trout were once very abundant.

In some places the ranges are broken by gaps, through which the rivers find their way. To the east of the mountains, crossing what is called the Atlantic Slope, are many swift streams. Vast quantities of iron and coal are taken from the mines of this region.

From the Gulf of Mexico, right through the middle of the continent, to the Arctic Ocean, is a broad, level belt, called the Great Central Plain. The northern part of this tract is known as the Arctic Plain, or Slope, and the southern as the Mississippi Valley. This valley is drained by the Mississippi, which is the most important river in the world, and next to the largest in size. Its tributaries come from the Rocky Mountains on the west, and from the Appalachian Mountains on the east.

The valley of the Mississippi contains many states, and it is sometimes called the "Garden of the World." In the upper part of the valley are vast prairies, on which are thousands of farms, with wheat, and corn, and cattle. Farther down are larger fields of corn, with tobacco and hemp. As we near the Gulf, we see plantations of cotton and of sugar-cane.

All along the western borders of the valley, to the east of the Rocky Mountains, are broad plains which are not yet settled. Here were once found large herds of buffaloes, which were hunted for their skins and for their flesh. The Indians pursued them on horseback. The whites have slaughtered millions of these noble animals, and few now remain to crop the wild buffalo grass of the great plains.



THE MICHIGAN CENTRAL CANTILEVER BRIDGE, NIAGARA FALLS.

On the eastern borders of the valley there were once noble forests of oak, beech, maple, and other hardwood trees, which are now cleared off, and we see fine farms, beautiful orchards, and thriving cities wherever we go.

We will learn more about the "Father of Waters" and its great valley when we study the United States.

The St. Lawrence is a noble river. It drains five great lakes, one of which is the largest body of fresh water in the world. Between Lake Erie

and Lake Ontario are Niagara Falls, whose name is an Indian word meaning "thunder of water." The roar of the falling waters may be heard for several miles. At the edge of the cataract the Niagara River is 4,750 feet wide. The fall is divided into two parts by a small island. On the American side the cataract is 164 feet in height.

On the upper St. Lawrence are many beautiful islands, called the Thousand Isles. Farther down are the rapids, where the water flows so swiftly that boats and rafts are guided with great difficulty. They can not sail up against so strong a current, but go round by canals.

On an island in the river, six hundred miles from the sea, is a large and fine city, called Montreal. Farther down we pass a fortified city named Quebec. The river is here two miles wide, and so deep that the largest ships reach the city from the sea. The valley of the upper St. Lawrence is thickly settled.

The Mackenzie is a very long and large river which drains a part of the Arctic Slope. There are no villages on its banks, and no ships on its waters, which are frozen, near its mouth, nine months in the year. During the short summer it is frequented by countless numbers of ducks and geese, and when the ice breaks up in the springtime, fish are so numerous that they almost crowd one another out of the water.

The Columbia is the largest river flowing into the Pacific from the American continents. It is a rapid stream, passing through many gorges, and having many falls and rapids, where large numbers of salmon are caught by Indians, who are very skillful in taking them with spears. The scenery on the Columbia is very fine.

PILLARS OF HERCULES AND ROOSTER ROCK, COLUMBIA RIVER.

Questions on the Picture.— Who was Hercules? What were the ancient Pillars of Hercules? What are growing on the sides and top of the pillar at the left? Where may the train be going?

Written Exercise.— Points: Appalachian Mountains— Great Central Plain — Mississippi Valley — St. Lawrence — Mackenzie — Columbia.

NOTE.— The teacher should not fail to converse with pupils as the reading proceeds. Give the meaning of words with which they are not familiar. Elucidate points of interest as they come up. Do not allow a picture to pass without careful study. Lead pupils to observe the minutest details. Have them write what they think about the things seen. Refer to the map whenever countries, mountains, rivers, etc., are spoken of in the text. This practice is of great value to the learner.

READING LESSON XXIV.

DOMINION OF CANADA.

LET us visit the different countries of North America, and see what we can learn. We will go over into the Dominion of Canada, which belongs to Great Britain, a country beyond the Atlantic. The Dominion is divided into provinces like our states, some of which are thickly settled by people who are engaged in farming, lumbering, manufacturing, fishing, and commerce.

Away to the east are New Brunswick, Nova Scotia, and Newfoundland. New Brunswick has immense forests of valuable timber, and Nova Scotia is noted for its mines of coal and iron.

The island of Newfoundland is cold and foggy. The coast waters are the most celebrated fishing grounds in the world. The white sails of hundreds of fishing vessels may be seen at one time. Many of the codfish which we buy come from what are called the Banks, which are sand plateaus beneath the ocean.

CAPE RACE, NEWFOUNDLAND.

Quebec is a cold province. Lumber is one of its great sources of wealth. Millions of pounds of sugar are made from the maple. The moose, deer, beaver, and otter are found in great abundance.

Ontario is one of the finest farming countries in the world. It sends large quantities of flour to Great Britain. Apples and other fruits are grown.

Labrador is a cold, desolate region. The waters along the coast are frozen until midsummer.

British Columbia, west of the Rocky Mountains, has a milder climate. Here, cattle find green pastures in summer, and they hardly need shelter in winter, except in the north. This is because of the warm southwest winds from the ocean.

East of the Rocky Mountains, and west of Hudson Bay, lies the great Arctic Plain. The southern part of this plain is warm in summer but very cold in winter. Here is the province of Manitoba, with its rich soil, and fine fields of wheat. Settlers from the Old World, and from other parts of the Dominion, are flocking to this region, to seek homes and wealth.

As we go north on this plain, the climate grows colder and colder. The trees and plants are more and more stunted by the frost. Far to the north, the ground freezes very deep in winter, and only a few inches of the surface thaw during the short summer. Coarse grass, moss, and stunted shrubs are the principal plants.

The central portion of the Dominion of Canada has been a paradise for hunters and trappers for more than two hundred years. The Hudson Bay Fur Company once had fifty forts, or stations, for buying furs. In a cold country like this, fur-bearing animals are abundant, and the Indians and hardy whites seek them in the forests, lakes, and streams. The choicest furs are still sent to London, and are worn by ladies and gentlemen of rank.

All along the northern shores of the continent, and also in Greenland, there are curious people called Esquimaux (es'-ke-mo), who live

AN ARCTIC SCENE.

In the foreground of this picture we see a happy family. The mother is going to give each of her children a supper of seal. The father has been hunting, and, no doubt, he too is very hungry. Another hunter is returning with his dog. The curious-looking sled is made without iron, the slats are tied to the runners with pieces of rawhide. Over one of the ice huts is a small boat, called a kyak. In the distance are icebergs.

What else can you see in the picture?

by fishing and hunting. They move from place to place, wherever they can find seals and sea-birds. They have fierce-looking dogs, which they harness to sleds, and drive rapidly over the ice with long whips. Their winter huts are covered with snow. The whole family cook, eat, and sleep in the same room. Blubber, burned in a basin with a wick of moss, serves as fuel and light.*

When food is plenty they eat a great deal. They can make a good dinner of tallow-candles and whale oil. They like the blubber, or fat, of the whale, and of the seal and walrus. They dress in the warmest furs, and their children frolic on the ice and snow when the weather is bitter cold. They never see the green turf, pretty flowers, or tall trees. Santa Claus never goes there with toys or candies, and yet they seem very happy.

Many Indians are still found in the Dominion of Canada. They were there when the French discovered the St. Lawrence and claimed the country in the name of France. The civilized inhabitants are chiefly French and English.

Written Exercise.— Points: Dominion of Canada — Occupations — Forests — Mines — Fisheries — Furs — Esquimaux.

*Read Dr. Kane's Arctic Explorations.

READING LESSON XXV.

MEXICO AND CENTRAL AMERICA.

LET us leave the cold regions of the North, and visit Mexico and Central America, our neighbors on the south. We find the country so warm that people have to dress in thin clothes, and spend much time in the shade. We will first travel along the coast.

Here the land is low, the streams are sluggish, and there are many swamps. Alligators, snakes, and many other reptiles abound. In some places the forests are so dense that the ax must be used to cut our way. Here grow the palm, the mahogany, the India-rubber tree, vanilla — which is used for flavoring, indigo, silk-grass, and many other curious plants. Dahlias, geraniums, and fuchsias grow wild, and are very common.

Going back from the low, unhealthy coast, we come to table-lands, which cover the greater part of these two countries. The top of the wonderful table-lands is more than a mile above the level of the sea, and here the air is cooler and the climate is delightful. The Sierra Madre Mountains rise high above the great plain. They are very steep, and hard to climb. Here and there over the plain are cone-shaped volcanoes, sending out smoke, ashes, and flame. Volcanoes are numerous in Central America, and earthquakes are frequent

There are but two seasons in these countries — the wet and the dry. Much of the land has to be cultivated by irrigation, or watering, by means of ditches. As there is no winter, we may see the farmer sowing his grain on one part of his farm and reaping it on another.

The cactus and the agave, with their curious forms and beautiful flowers, grow everywhere. The cochineal cactus, on which the insect feeds that furnishes the beautiful red dye, and the pul-

qué (pool'-kay) plant, are very useful. The last furnishes sugar, wine, and brandy. Its thorns are used for nails, ropes are made of its fibers, and its leaves are a natural paper or parchment on which the ancient kings kept their records.

Between the low coast and the highest table-lands of Mexico we may find almost every plant that grows in the Temperate or Torrid Zone. Grains, coffee, sugar-cane, cocoa, tobacco, grapes, orchard fruits, vegetables, pine-apples, and oranges are all cultivated.

Here and there, on the table-lands of Mexico, are great cracks or chasms, at the bottom of which running water is sometimes found. Some of these chasms are so very, very deep that we may see many plants of the Torrid Zone growing at the bottom, and plants of the Temperate Zone on the table-land above.

The mountains of Mexico are rich in minerals. Mines of gold, silver, and other metals have been worked for hundreds of years.

The City of Mexico is the capital. It is near a beautiful lake, in an oval valley, with high mountains all around. Two of these mountains are always covered with snow. Snow-covered peaks in the clear sky above, and the most beautiful tropical gardens in the great city below! How strange it seems!

The inhabitants are Spaniards, Indians, and mixed races. They do not like to work very hard. They are fond of dancing, horseback riding, and smoking. Even the women are seen on the streets with their cigarettes.

Mexico is a republic, like our own country, and there are many states with strange names. Central America is divided into five republics, each having a capital of its own.

Written Exercise — Countries — Coast — Table-Land — Mountains — Plants — Chasms — City — People.

NOTE.—Pupils should not be limited to the topics given to assist them in making up their summaries. They should be encouraged to speak of anything they have learned.

An oral review may follow the reading exercise. Allow one pupil to take the first point of the lesson, another, the second point, and so on, until each member of the class has had the privilege of saying something.

SCENE IN MEXICO.

READING LESSON XXVI.

WEST INDIES AND GREENLAND.

TO the east of the Gulf of Mexico are clusters of islands, called the West Indies. Here Columbus landed after his first voyage, in 1492. Frosts are unknown, except on the mountains, and summer lasts all the year. Some of the larger islands have highlands, where people go to enjoy the cooler air when it is very hot near the coast.

On many of the islands nearly all the land is cultivated. The farms are called plantations. The owner of the plantation lives in a large, low house, with a wide porch. Around the house are many cabins for the laborers, who are mostly negroes that were once held as slaves, but are now free.

Sugar is the leading product. Sugar plantations are seen, the same as fields of corn in our great corn-growing states. Large quantities of oranges, pine-apples, bananas, and other fruits are raised, and whole ship-loads are sent to the great sea-ports of the United States.

Tobacco and coffee are also at home here. One of the finest trees is the cocoa-nut palm. It grows tall and straight, without branches or leaves except at the top, where a tuft of long, broad leaves hangs over, often concealing the fruit.

Cuba is larger than all the other West Indies taken together, and one-third of the sugar of the world is said to be produced on this island.

TROPICAL PLANTS AND FRUITS.

Havana is the largest city on the Islands. It has much trade, and is noted for its cigars. It is the greatest sugar market in the world.

The West Indies belong to Spain, France, Great Britain, and other European nations. Hayti is made up of two negro republics.

Greenland.—Away to the northeast, on the borders of a frozen ocean, is Greenland. Its name is the most pleasant thing about it. A large portion of the land, instead of being green, is white with snow eleven months in the year. How different from the sunny climes we have just left!

Its few inhabitants live by hunting seals, catching whales, and gathering eider-down, which is taken from the nest of the eider-duck. Arctic explorers visit the shores of Greenland, but they find it a cheerless place. Some of its mountain valleys are filled with ice, which moves slowly into the sea, where huge pieces are broken off, forming icebergs, which are floated far out into the Atlantic. These icebergs sometimes cross the track of ships going to Europe.

Greenland belongs to Denmark.

Written Exercise. — West Indies — Climate — Plantations — Productions — Cuba — Havana. Greenland — Climate — Occupations.

TOPICAL REVIEW OF NORTH AMERICA.

Have pupils write or tell what they know about any one of the following topics: Size — Mountains — Table-Lands — Rivers — Valleys — Dominion of Canada — Mexico and Central America — West Indies — Greenland.

SOUTH AMERICA.

Map Studies.—Trace the outline of South America, and print the names of the divisions of water that bound it. Is the coast regular or irregular? Do you think that there are many fine harbors?

Copy the chief mountain ranges, and print names. In what part of the continent are these ranges?

Copy the largest rivers. Are they long or short? Does most of the continent slope east, or west? Which river drains the most land? Which ocean receives the most water from the rivers? How many great river valleys are there?

Copy the boundaries, and print names of countries and their capitals. Which is the largest country? The smallest? The longest? What countries are crossed by the Andes? Are there any countries without mountains?

In what zones does the continent lie? Which are the warmest countries? The coldest countries? Is North or South America the warmer continent? Shall we find more oak trees or palm trees in South America? More apples or cocoa-nuts? Shall we see large numbers of fur-bearing animals on the Amazon? Why do you think so? Shall we find the vegetation rank or stunted? Do the people in the North dress to keep warm or cool? Is there much rain in the valley of the Amazon? Is there anything on the map to show the amount of rain? Which are warmer, the mountain or lowland countries?

Measure the length of the Andes. Of the Amazon. Find the distance from Cape Blanco to Cape St. Roque. Is North or South America the longer continent? The broader?

SOUTH AMERICA
SCALE OF MILES.
0 100 500 1000
100,000 SQUARE MILES
Longitude 90 70 60 West from 50 Greenwich 40 30
Longitude 13 West 0 East 7 from 27 Washington 47
WEST INDIES
CARIBBEAN SEA
CENTRAL AMERICA
CUBA
HAYTI
YUCATAN
Aspinwall
Panama
Panama Bay
Pt. Gallinas
Maracaybo
CARACCAS
TRINIDAD I.
Orinoco R.
VENEZUELA
Georgetown
Paramaribo
Cayenne
GUIANA
BOGOTA
COLOMBIA
PARIME MTS.
Mouth of Amazon R.
MARAJO I.
Negro R.
Amazon R.
EQUATOR
QUITO
Chimborazo
Guayaquil
ECUADOR
GALAPAGOS ISLES
G. of Guayaquil
Cape Blanco
Nauta
Para
Maranham
Cape St. Roque
Pernambuco
Bahia
BRAZIL
Purus R.
Madeira R.
Tapajos R.
Xingu R.
Araguay R.
Tocantins R.
Parnahyba R.
San Francisco R.
SIERRA ESPINHAGO MTS.
PERU
LIMA
Callao
Cuzco
ANDES
Titicaca
BOLIVIA
La Paz
SUCRE
Potosi
DIAMOND DISTRICT
Cuyaba
Parana R.
ORGAN MTS.
Cape Frio
RIO JANEIRO
San Paulo
Cobija
TROPIC OF CAPRICORN
Salado R.
Paraguay R.
PARAGUAY
ASUNCION
Uruguay R.
Cordova
Rosario
URUGUAY
MONTE VIDEO
Rio de la Plata
BUENOS AYRES
Valparaiso
SANTIAGO
JUAN FERNANDEZ IS.
ANDES
Rio Negro
CHILOE I.
PATAGONIA
ARGENTINE
Gulf of St. George
Strait of Magellan
FALKLAND ISLANDS
TIERRA DEL FUEGO
Cape Horn
PACIFIC OCEAN
ATLANTIC OCEAN
TORRID ZONE
TEMPERATE ZONE
SOUTH TEMPERATE ZONE
SOUTH TEMPERATE ZONE

RUBBER TREES. CONDORS. LAKE DWELLINGS ON THE ORINOCO.

READING LESSON XXVII.

SIZE—CLIMATE—MOUNTAINS—RIVERS.

SOUTH AMERICA is not quite so large as North America. Its coast is much more regular, and there are fewer good harbors where ships can find safe shelter when the ocean is lashed with storms.

The continent is crossed by the Equator, and much the larger part of it lies in the Torrid Zone. Here we need look for no frosts to kill the leaves or flowers, except high up among the mountains. Traveling south from the Equator, the climate grows colder and colder as we near the South Pole. Though no part of South America lies in the South Frigid Zone, the southern extremity is very cold and stormy, and seamen dread to double, or sail round, Cape Horn.

The Andes are much higher than the Rocky Mountains. There are more than fifty volcanoes and hundreds of snowy peaks along this mighty range. For 3,000 miles of their length there is no gap, or pass, where a railroad can be built. Travelers cross on winding paths, which only the sure-footed mule or llama (la′-ma) can follow with safety. There are deep gorges, with steep banks and foaming streams, over which are bridges, each made of two ropes of twisted bark, on which a basket is swung. The traveler sits in the basket and pulls himself over.

In the middle and north, the mountains form two or three ridges, with high, broad valleys or table-lands between. On these table-lands, more than two miles above the sea, are cultivated fields and large cities; and rich mines of silver and other metals are found in the mountains around them. At one place, near the city of Quito (ke′-to), no less than seventeen volcanoes can be seen. The awful flames of Cotopaxi (ko-to-paks′-e) sometimes rise a half mile above its summit, and its roar has been heard six hundred miles away.

At the foot of the Andes, in the Torrid Zone, we find dense forests of palm, and other trees that grow in warm countries. Higher up the slopes are the trees of the Temperate Zone; and, higher still, are shrubs and mountain plants; and, at last, rocks, snow, and the terrible cold of the arctic regions. In the countries crossed by the Andes, earthquakes occur very frequently. Whole cities are sometimes destroyed, and thousands of people are buried in the ruins. The other mountains on this continent are much lower, and they are less important.

South America has three great rivers. They are the Amazon, the Orinoco, and the La Plata. The

Amazon carries far more water to the sea than any other river in the world. For a long distance from its mouth, its banks are so far apart that boats, in sailing upon it, are out of sight of land. It is one hundred and fifty miles wide at its mouth; and four miles across a thousand miles from the ocean. Large steamers follow it for days and days.

The Selvas, or plains of the Amazon, are covered by the most wonderful forests in the world. Here are palms, ferns, mahogany, rosewood, dyewoods, and many other kinds of trees, growing so near together that monkeys may travel for miles on their branches without coming to the earth.

Clinging to the branches are thousands of air-plants, with beautiful leaves and curious flowers. The shrubbery between the trees is often so thick that the traveler must cut his way as he goes. On the river is found the Victoria Regia, a water-lily, whose leaves are sometimes ten feet long and six feet broad. In the midst is a large blossom, white and pink, with a golden center.

The Orinoco overflows its banks every year. Thousands of alligators, electrical eels, and other curious fish are found in its waters.

A fish called Hassar builds its nest in a muddy hole, just above the water, and travels overland from one pond to another. When the dry season comes on, it buries itself in the mud to wait for the welcome rain. The natives dig for it in the dry season and fish for it in the wet.*

The Llanos (lah'-noce) of the Orinoco are vast tracts of level land, with low knolls, called mesas, rising here and there. In the dry season the hot sun parches the ground, great cracks come in the earth, the grass and flowers wither and die, and there is no green thing to be seen. As the dry weather comes on, countless herds of wild horses and cattle retreat to the green pastures near the mountains. Alligators, huge serpents, and other reptiles bury themselves in the drying mud of the shallow lakes, marshes, and pools, to wait for the rainy season.

By and by the great black clouds return. The welcome rain pours in torrents day after day; the lakes, pools, and marshes fill up; the alligators and snakes wake from their long sleep and crawl from their slimy beds; the grass and flowers come on apace; and the herds of horses and cattle return, to grow sleek and fat on the rich pastures.

* Consult "Homes Without Hands," by J. G. Wood.

Written Exercise.—Size—Climate—Andes—Amazon—Orinoco.

Queries.—What is meant by "air-plants?" By "electrical eels?" On what do snakes, fish, etc., live while buried in the mud?

READING LESSON XXVIII.

PAMPAS—LAKES—PLANTS.

IN a province in Brazil (brah-zeel'), a gentleman owns two springs but a few feet apart, one of which finds its way to the sea through the Amazon, the other through the La Plata, a river which is navigable for more than a thousand miles.

During the rainy season, the vast, treeless and stoneless plains of the La Plata are covered with coarse grass and rank clover, with thickets of thistles here and there, whose spines are so long and sharp that a horseman can hardly force his way through them. Millions of cattle, horses, sheep, and deer then feed on the rank herbage. In the dry season, the plains are parched and bare.

The cattle are caught with what the Spaniards call a lasso. This is a rope with a noose at one end, which is thrown with great skill.

There are no great lakes in South America. A few small ones are found in the Andes. Titicaca (te-te-kah'-kah), on the borders of Bolivia and Peru, is 12,000 feet above the sea, and surrounded by snow-capped mountain peaks. On an island in the lake and along its shores, are ruins of temples and other buildings, erected by the Peruvians long before the time of Columbus. The water of these mountain lakes is very cold and of a deep blue or green color.

We have been reading about rainy seasons in that part of South America lying east of the Andes. On the Amazon it rains, or pours, a part of every afternoon in the year. The clouds gather suddenly, and down come the drops so rapidly that the canoe of the traveler is sometimes filled before he can get to the shore. Now, right over on the other side of the Andes, is a long, narrow strip of country, where there is almost no rain. Why is this?

Over all that part of the continent which is drained by the Amazon the wind blows from the east. It is a warm wind, and brings much moisture from the Atlantic, over which it has passed. As the moist wind moves over the land, clouds form and rain falls.

When the wind reaches the highlands and mountains on the west, it is lifted higher and higher and cooled more and more as it passes over the slopes. Cold wind can not hold the moisture like warm wind, and so it comes down in rain, hail, or snow. So, great quantities of rain fall on the eastern slopes and some in the high mountain valleys, but when the wind gets to the western side of the mountains it has lost its moisture and no rain can fall.

Almost everything that grows out of the earth is produced or grows wild on this continent. Coffee, sugar-cane, cotton, hemp, tobacco, indigo, pine-apples, and many fine fruits and spices are raised on the cultivated lands of the warm countries. Wheat and other grains are grown in the mountain valleys.

LLAMA TRAIN — COFFEE PLANT.

Among the trees may be found the cow tree, whose sap is somewhat like milk; the bread-fruit tree, which furnishes food for thousands of people; the candle tree, with its tapers; the blanket tree, with its coverlets; the soap tree, and the India-rubber tree, whose juice is caught in vessels, and dried and smoked.

Much of the coffee which we use comes from a shrub with dark, glossy leaves, white flowers, and scarlet fruit. The tree blooms for eight months in the year, and its blossoms are very fragrant. The fruit is dried on mats or large floors, and then the dried pulp is passed between iron rollers to get out the seeds which we call coffee. It is not a native of South America.

Written Exercise. — La Plata — Lakes — Rain — Productions — Trees — Coffee.

READING LESSON XXIX.

ANIMALS—COUNTRIES.

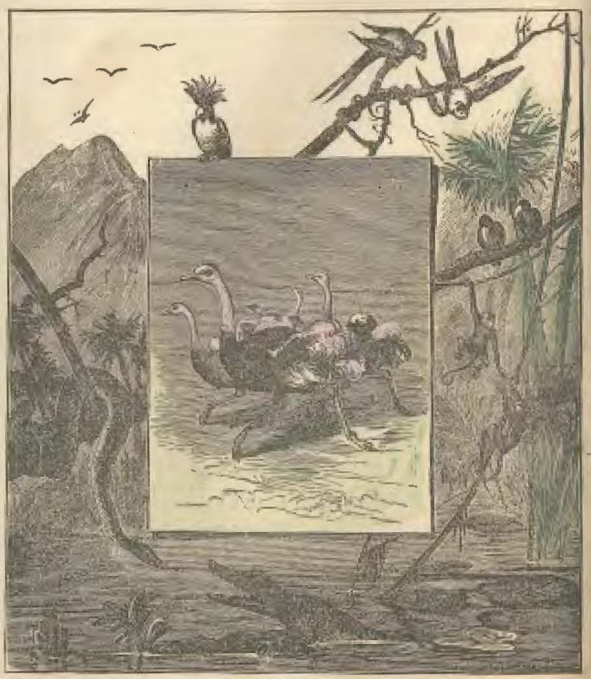
THERE were no cattle or horses in South America when it was discovered. They were brought from Europe, and turned loose to take care of themselves. Millions of them now roam over the plains. Horses are often killed for their skins, and cattle for their hides, horns, and tallow. What do you think they do with all these?

The tapir is the largest wild animal. The jaguar is a ferocious creature, like the tiger. The alpaca and llama of the Andes yield a kind of wool, and the latter is used as a beast of burden. There are alligators and serpents in the swamps, chattering monkeys, gaudy parrots, and many other beautiful birds in the forests. Red flamingoes wade in the pools, and far up on the mountains is the condor, the largest bird that flies. The insects are counted by millions. Fireflies swarm in the forests, and rich-hued butterflies flit above the pools.

The white inhabitants are mostly Spaniards and Portuguese. The latter are found in Brazil; the Spaniards, in all the other countries. They are somewhat indolent. There are some negroes, whose forefathers were slaves. Many of the Indians are savages, living on fruits and fish.

We will now learn something of the countries of South America.

Brazil is the largest. It is nearly as large as the United States. The greater part of it is covered with thick forests. Many of the trees



ANIMAL LIFE IN SOUTH AMERICA.

have beautiful blossoms. One of the many climbing vines is vanilla, a kind of bean from which perfume is made. The country is said to produce

half the coffee used in the world. The highlands in the southeast produce fine diamonds. About one-third of the people are whites, who think it a disgrace to labor.

Rio Janeiro (ri-o ja-nee′-ro) has a fine harbor. Its streets are lined with palms. Goods are carried on the backs of negro porters. The coffee-carriers go in companies, each carrying on his head a sack of coffee weighing one hundred and fifty pounds.

Guiana (ge-ah′-na) is the only part of South America belonging to the nations of Europe. From this country we get black and cayenne pepper, cloves, and other tropical products.

Venezuela (vén-e-zwee′-lah) includes a large part of the plains of the Orinoco, with highlands in the northwest and southeast bearing rich grasses. We may expect to find its people engaged in cattle-raising. No hay is needed for winter food, and no shelter from winter storms. Ship-loads of hides, horns, and tallow are sent over the sea. Many years ago Caracas, the capital, was laid in ruins by an earthquake, and twelve thousand people were killed.

The republics of Colombia, Ecuador (ek-wa-door′), Peru, and Bolivia are crossed by the broad belt of the Andes. We have learned what a wild and wonderful region this is. Most of the civilized inhabitants live in high mountain valleys, with snowy peaks and volcanoes always in sight. The climate is healthful. The grains and fruits of the Temperate Zone are raised. East of the mountains we find the plains of the Orinoco, and, farther south, the vast forest region on the head-waters of the Amazon.

When discovered by the Spaniards, Bolivia, Peru, and Chili (Chil′-le) formed a large empire, whose people were the most civilized of any in South America. They had fine cities, temples for the worship of the sun, and aqueducts to supply water. A Spaniard, named Pizarro, put their emperor to death, and robbed the people.

The mountains of Bolivia are the highest, and the table-lands the broadest, of any on the continent. Mount Sorata is the highest peak in the Western Hemisphere. Its top is nearly five miles above the sea. The silver mines of Potosi were once the richest in the world.

CROSSING THE MOUNTAINS.

The long, narrow country, Chili, is in the South Temperate Zone. Its rains come with the northwest winds. Here we see the grains of our own land. The potato grows wild, and it was first obtained from this country. Santiago is a large city.

The Argentine Republic is a land of pampas, cattle, and herdsmen. Buenos Ayres (bo′-nus a′-riz) is a great cattle port.

Paraguay (pah′-rah-gwa) has a healthy climate. It produces corn, cotton, rice, and sugar-cane.

Uruguay (u′-roo-gwa) is a country of rich pastures. Its capital, Montevideo (mon-te-ve′-dee-o), is another great cattle port.

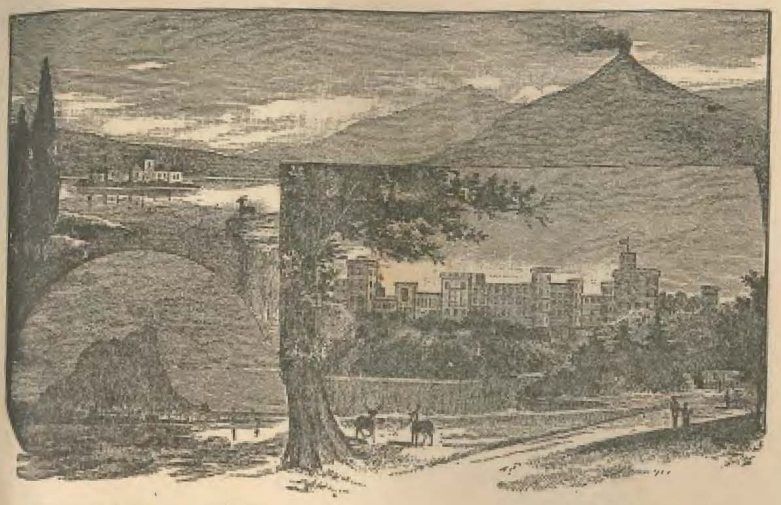
Written Exercise. — Animals — Inhabitants — Brazil — Guiana — Venezuela — Republic of Colombia — Ecuador — Peru — Bolivia — Chili — Argentine Republic — Paraguay — Uruguay.

TOPICAL REVIEW OF SOUTH AMERICA.

Have pupils tell what they can about the climate, mountains, rivers, plains, forests, plants, animals, mines, people, and countries.

EUROPE
SCALE OF MILES.
0 100 300 500
ARCTIC OCEAN
ATLANTIC OCEAN
ARCTIC CIRCLE
Reykjavik
ICELAND
Mt. Hecla
FAROE IS.
SHETLAND IS.
ORKNEY IS.
HEBRIDES
BRITISH ISLES
SCOTLAND
Glasgow
Edinburgh
IRELAND
Dublin
Irish Sea
Manchester
Liverpool
WALES
ENGLAND
Birmingham
LONDON
Thames R.
C. Clear
Lands End
English Channel
NORTH SEA
DENMARK
COPENHAGEN
Hamburg
Bremen
THE HAGUE
NETHERLANDS
BELGIUM
BRUSSELS
Brest
Havre
PARIS
Seine R.
Loire R.
Rhine R.
Main R.
Elbe R.
Danube R.
Munich
Dresden
BERLIN
GERMAN EMPIRE
Prague
CARPATHIAN MTS.
VIENNA
AUSTRIA
BUDA
PESTH
HUNGARY
Maros R.
Danube R.
Pruth R.
Dniester R.
Odessa
Kiev
Dnieper R.
Kharkov
Don R.
Astrakhan
Volga R.
Ural R.
Saratov
Tula
Moscow
Tver
Oka R.
Nijni Novgorod
Kazan
Perm
Kuban R.
Terek R.
CAUCASUS MTS.
Derbend
CASPIAN SEA
Sea of Azof
CRIMEA
Batoum
Mt. Ararat
PERSIA
Tigris R.
Euphrates R.
Persian Gulf
Dead Sea
PALESTINE
CYPRUS
CANDIA
Cape Matapan
GREECE
ATHENS
Egean Sea
ASIA MINOR
ASIATIC TURKEY
Sea of Marmora
Bosporus
BLACK SEA
CONSTANTINOPLE
BULGARIA
SERVIA
MONTENEGRO
BALKAN MTS.
TURKEY
Save R.
Danube R.
ROUMANIA
BUCHAREST
CARPATHIAN MTS.
Trieste
Venice
Genoa
Po R.
Adriatic Sea
PRENNINE MTS.
ITALY
Florence
ROME
Naples
Marseilles
Genoa
Lyons
BERNE
SWITZERLAND
Rhone R.
Garonne R.
Lyons
Bordeaux
BAY OF BISCAY
C. Finisterre
Oporto
Minho R.
CANTABRIAN MTS.
Douro R.
PORTUGAL
LISBON
Tagus R.
MADRID
SPAIN
Ebro R.
Barcelona
PYRENEES
Guadalquivir R.
C. St. Vincent
Str. of Gibraltar
BALEARIC IS.
CORSICA
SARDINIA
SICILY
Mt. Etna
Str. of Messina
MALTA
C. Bon
MEDITERRANEAN SEA
AFRICA
Hammerfest
North Cape
LOFODEN IS.
Kola
LAPLAND
Tornea R.
White Sea
Archangel
Dwina R.
Petchora R.
URAL MOUNTAINS
Obi R.
SIBERIA
ASIA
NOVA ZEMBLA
Umea
Gulf of Bothnia
SWEDEN
SCANDINAVIAN MTS.
Bergen
The Naze
CHRISTIANIA
STOCKHOLM
FINLAND
L. Saima
L. Ladoga
L. Onega
G. of Finland
ST. PETERSBURG
VALDAI HILLS
Riga
Duna R.
Niemen R.
Wilna
Vistula R.
Warsaw
Breslau
RUSSIA
Volga R.
Nijni Novgorod
Kazan
Perm
Ural R.
Saratov
Kharkov
Don R.
Astrakhan
Kuban R.
Terek R.
CAUCASUS MTS.
Derbend
Sea of Azof
CRIMEA
Batoum
Mt. Ararat
Persian Gulf
Dead Sea
Longitude East 0
Longitude West 20 from Greenwich
60
50
40
30
20
0
20
40

EUROPE.



ISLAND IN THE MEDITERRANEAN. GIBRALTAR.

MOUNT VESUVIUS. AN ENGLISH PARK.

Map Studies.—Draw the outline of Europe by cardboard form, and print names of the natural divisions of land and water surrounding it. What can you say of the coast? Do you think that there are many good harbors? Is the coast more or less regular than that of North America?

Copy the mountain ranges, and print names on your map. Are the ranges longer or shorter than those of South America? What can you say of the directions of the ranges? Of the number? Which part of the continent is least mountainous? In which part shall we be likely to find the grandest scenery? Why do you think so?

Copy a few of the longest rivers, and print their names on your map. Are there many or few rivers? Is there any part of the continent without rivers? Do the waters flow in one or many directions? Are there few or many slopes? Are there any long, cold slopes? Are there many warm slopes? Point them out.

Copy the boundaries of countries, and print their names and the names of capitals. Are there many or few countries? Which are the largest countries? Which are the smallest? Which are peninsulas? Copy the large islands. Are there any countries without sea-coast?

In what zones is Europe? Point out the warm countries. The cold countries. Is Iceland a cold or a warm country? Is the Mediterranean a warm or a cold sea? Is Europe colder or warmer than South America?

Find the distance from London to Rome, in a straight line. From Rome to St. Petersburg. What is the length of the Black Sea? Of England and Scotland? Find the greatest length of land. Is the continent larger or smaller than North America?

READING LESSON XXX.

SIZE—COAST—MOUNTAINS—RIVERS—PLANTS—ANIMALS.

WE will now cross the Atlantic, and visit Europe, the land from which Columbus sailed when he discovered the New World, the land from which our fathers came. Here we shall find many civilized nations, whose history goes back for hundreds of years, many people whose speech we can not understand, and a great many interesting things.

Europe is the fifth in size among the great divisions of land, but it has more people than any other continent except Asia. Like great hives of busy bees, the nations of Europe send out swarms of people to all parts of the earth.

As we look at the map, we notice many seas, bays, and gulfs. How broken the coast appears! We need not be surprised to learn that there are many fine harbors, and that thousands of ships sail upon these waters, bearing away what the people have to sell, and bringing back what they buy from other lands.

Europe may be divided into two parts, the one a mountainous region in the southwest, and the other a vast plain in the northeast. We may travel from east to west, through the center of the continent, without crossing a single mountain range.

The Alps are its grandest mountains. Many of the peaks are always covered with snow. In some of the valleys along the mountain sides are vast masses of ice called glaciers (gla'-seers), which move slowly down the slopes. Some of these are twenty miles long and three miles broad. The

EDDYSTONE LIGHTHOUSE IN A STORM.

This lighthouse is built on rocks in the English Channel, which are daily covered by the tide. So many ships were wrecked upon these rocks, that the English Government built a lighthouse upon them, nearly two hundred years ago. The first lighthouse was destroyed in a terrible storm; the second was burned more than a hundred years ago; the one which we see in the picture defied the storms for more than a hundred years.

ice melts at the foot of the glaciers, and forms clear streams bordered with green grass and sweet mountain flowers. Sheep crop the grass, and the shepherd's horn echoes in the mountains.

Narrow roads wind along the mountain sides leading to pretty villages nestled high up among the hills. In some of the high valleys are beautiful lakes, with orchards and vineyards sloping down to their shores. Travelers visit the Alps, to enjoy the beautiful scenery; to hunt the wild deer in the forests, and the chamois (sham'-my) among the cliffs and crags, or to climb the icy steeps to the highest peaks. Climbing the peaks is very dangerous. If the foot of the traveler slip, he may fall down an awful precipice or into a deep crack in the ice. Wonderful railroad tunnels have been made through these mountains. The St. Gothard tunnel is about nine, and the Mt. Cenis tunnel seven and one-half miles long.

The rivers of Europe are not so large as those of America, but they penetrate every part of it, and no country is without its pleasant and useful streams. The Rhine is celebrated for its castled steeps, and for its vineyards. The Danube is noted for its commerce. It flows through a mountain pass called the Iron Gate, and in its waters are the Golden Islands. The Volga is the largest river. It enters the Caspian Sea through sixty or seventy mouths. Great quantities of salmon and sturgeon are caught in its waters.

Europe is the only continent that does not touch the Torrid Zone. The northern part is very cold, but much the larger portion has a mild climate.

Western Europe is warmed by the waters of the Gulf Stream, as it is called, which flows across the Atlantic from the Gulf of Mexico England is farther north than the northern boundary of the United States, but her winters are not so cold or snowy as those of New England. How strange that the warm waters of the Torrid Zone should make the homes in northern countries cheerful and happy.

Southern Europe is called the Evergreen Zone. Here grow the orange, the olive, the vine, and trees whose leaves are always green. In the middle zone, or section, we find wheat and other grains, hemp, flax, orchard fruits, and vegetables. Beech, oak, and chestnut are found in the forests.

Far to the north, we see the stunted plants of the Frigid Zone. Barley is raised farther north than any other grain.

The wolf, the lynx, and the bear are the principal savage beasts. The reindeer is found in the north. Domestic animals are abundant and the finest in the world. The birds are not so beautiful

as those of the other continents, but they are noted for the sweetness of their songs.

Written Exercise.— Many Nations — Size — Harbor — Mountains — Rivers — Climate — Plants — Animals.

Queries — Why do shepherds need horns? What sort of an animal is a chamois? What is a railroad tunnel? Why is Southern Europe said to be in the "Evergreen Zone?"

READING LESSON XXXI.

THE BRITISH ISLES.

GREAT BRITAIN, Ireland, and many small islands not far away are called the British Isles, and they form what is known as the United Kingdom of Great Britain and Ireland. Canada, India, and Australia are ruled by the English sovereign, and when we speak of the British Empire we include these great countries.

SCENE IN LONDON.

England, Wales, and Scotland form the island of Great Britain, which is only a little larger than

SCOTCH SHEPHERDS, WITH BAGPIPE.

Minnesota. It contains half as many people as the United States. England itself is only a part of an island. How strange it is that its sovereign should rule an empire containing one-sixth of all the land, and one-seventh of all the people of the globe; that the English flag should float over one-half of all the ships that sail upon the sea.

England does not raise enough bread and meat for its own people, but we see well cultivated lands, yielding grains, fruits, and vegetables, and green pastures, with fine cattle, horses, and sheep. The fields are often separated by beautiful hedges, which are covered with fragrant blossoms in the spring.

Large tracts are devoted to parks and forests, containing great elms, oaks, and other trees, planted hundreds of years ago. Here are deer, foxes, and other wild game, which sportsmen delight to hunt. The land is owned by a few rich men, many of whom live in castles built on their estates by their forefathers. The common people live in humble homes, and do not own a foot of the soil they till.

England is the greatest manufacturing country in the world, and most of its people are gathered in cities where there are large cotton and woolen factories, with thousands of whirling spindles and flying shuttles. There are also many factories where railroad iron, engines, and all sorts of iron goods are made.

There are rich mines of iron and coal; and thousands toil far down in the earth, where the light of day never comes.

The ships of England carry manufactured goods to all parts of the world, and return with the products of every clime. England buys much of our wheat, pork, beef, and cotton.

SCENE IN DUBLIN.

In this picture we see people riding in strange carriages, called jaunting cars. There is also a "coach-and-four," with the footmen behind. In the distance is Lord Nelson's Pillar. Who was Lord Nelson?

London is the capital of England, and the largest city in the world. It has a population of several millions. Its streets are many miles in length, and they are thronged with people. The river Thames (temz), on which the city is built, is crowded with ships.

Liverpool is the great cotton market of the world. Its docks extend five or six miles along the river.

Scotland is noted for its beautiful scenery. The highlands, in the north, are rugged and wild. Here are fearful precipices, deep glens, and clear lakes filled with fish. Shepherds and their faithful dogs watch their flocks on the hillsides.

The lowlands are carefully tilled. Mines of iron and coal are found, and there are many manufactories. Oatmeal porridge is the chief food of many Scotch lads and lassies. The wild music of a wind instrument, called a bagpipe, delights the Scotch ear.

Edinburgh is the capital and chief city. It is beautifully built on two ridges of hills, connected by bridges, which run over land instead of water.

Ireland, the Emerald Isle, is so named because of its green fields. It has many fair lakes and beautiful landscapes. The climate is moist, and well adapted to grazing. The finest linen is made from the flax, whose pale blue blossoms are seen on many a field.

The land is owned by rich landlords, and there are thousands of small tenants. A substance called peat is cut from the bogs, or marshes, then dried and used for fuel. Thousands of Irishmen have found homes in America.

Dublin is a large and fine city. Phœnix Park contains two thousand acres, and is one of the most beautiful in the world.

Written Exercise.—British Isles—British Empire—People—Farms—Parks—Manufactures—Mines—Commerce—Cities—Scotland—Ireland.

READING LESSON XXXII.

NORWAY, SWEDEN, AND RUSSIA.

NORWAY is a mountainous country, broken by deep, narrow valleys, with very steep sides. It is said to have thirty thousand lakes. All along the Atlantic are high, rocky coasts, with frightful clefts, narrow bays, and countless islands.

Wheat, barley, oats, and potatoes are raised in the valleys of the south, and here, cattle, sheep, and goats find pasture. Far to the north, nothing will grow but a little grass and moss, on which the reindeer feeds. Its chief sources of wealth are its forests, fisheries, and mines.

On the mountains are extensive forests of fir and pine. Many tall, straight trees are cut and floated down the swift streams, and sent to other countries to be used as masts for ships. The rivers teem with salmon. Oysters, lobsters, and herring are found along the coast, and thousands of people are engaged in fishing. There are mines of copper, silver, and iron. Schools are common, but the teacher often travels from house to house to instruct the children.

Sweden has lower mountain slopes than Norway, and low plains next the Baltic. Nearly one-

half of the land is covered with forests, and much wood is sent to other parts of Europe. Most of the people are engaged in farming, and they have grain and potatoes to export.

Swedish iron and steel are the finest in the world. The mines have been worked for a long time, and there are great underground chambers. Near the mines the forests have been cut down to melt the ores, and many furnaces now burn peat, which is found in large quantities.

In the north of Sweden and Russia is a very cold country, called Lapland. The Lapps live mostly on the milk and flesh of the reindeer. Some of them have large herds of these animals, and they move from place to place to find pasture for them. The reindeer is harnessed to a sort of sled, and driven rapidly over the snow. It will draw its master a hundred miles a day. Its skin is made into clothing, and its sinews are used for thread.

Norway and Sweden are united under one king. Stockholm is the capital and largest city of Sweden. Christiania is the capital of Norway.

The Russian Empire includes Siberia in Asia, and it covers one sixth of all the land in the world. It is ruled by a Czar, who lives in the splendid city of St. Petersburg, where are many fine churches and gilded domes. The Czar's winter palace affords room for 6,000 people. It is the largest palace in Europe.

VIEW IN ST. PETERSBURG.

Russia consists mostly of lowland plains. There are many great rivers connected by canals. The northern part of the country is mostly covered with forests of pines, firs, and other trees, in which are many bears, wolves, and fur-bearing animals. The rivers and lakes are full of fish, and wild fowl abound. Here the people hunt, fish, cut wood, burn charcoal, and make tar, pitch, and potash.

In the south are rich lands yielding grain, flax, and hemp. Large quantities of wheat are raised near the Black Sea, and Russia ranks next to the United States in its exports of this grain. In the southeast are great plains called steppes, which furnish pasturage to herds of wild horses. Great quantities of tea are imported from China. It is brought by dog-trains and caravans of camels over plains and mountains, thousands of miles.

Moscow is a large city in Central Russia. Napoleon, Emperor of France, once led a large army here, to conquer the country. The Russians set the city on fire, and the French could find no place to winter. Before they could get back to their own country most of the army died of cold and hunger.

Odessa is a great wheat port on the Black Sea.

Written Exercise.—Norway—its surface, climate, forests, fisheries, mines. Sweden—its forests, iron mines, Lapps. Russia—its plains, forests, animals, productions, cities.

Queries.—Are the most valuable fish found in cold or warm countries? How is charcoal burned? For what is it used? Is St. Petersburg farther north than our home? What is meant by "gilded domes?"

READING LESSON XXXIII.

GERMANY, HOLLAND, BELGIUM, AND DENMARK.

THE German Empire consists of many states, of which Prussia is the chief. The king of Prussia is called the Emperor of Germany.

In Central and Southern Germany there are mountains, highlands, and many beautiful valleys. Here are large forests, yielding wood for ship-builders, charcoal-burners, and wood-carvers. Large pastures are also found, with sheep and cattle in great numbers.

The Danube and the Rhine flow through this highland region. The Rhine runs through the mountains along a narrow gorge, which widens

into a fertile valley, with vineyards, orchards, and grain fields. Pretty villages and large cities are seen along its banks, and here and there ruined stone castles crown the cliffs.

The country toward the north is low and level, yielding large quantities of grain, tobacco, and flax. Fine woolen goods, lace, glass, leather, children's toys, wine, and beer are made. In the sand along the Baltic is found a beautiful yellow substance called amber.

EHRENBREITSTEIN, ON THE RHINE, OPPOSITE COBLENTZ.

This is one of the most noted castles on the Rhine. A stream flows through the narrow gorge seen in the foreground.

Germans are very intelligent. The law compels parents to send their children to school. There are many large, wealthy cities, with fine cathedrals, colleges, and picture galleries. Berlin, the capital, is as large as New York, and its university is one of the best in the world.

The Netherlands, or Holland, as it is generally called, is a country without mountains, forests, or rocks. It is the home of the Dutch. Large tracts of land lie below the level of the sea. The sea is fenced out, and the rivers are kept in their channels, by dykes of earth and stone, which are sometimes thirty feet high and seventy feet broad at the bottom. Now and then the dykes break, and many villages are half-buried in water.

Large ditches, or canals, with high banks, run through the country in all directions. In summer the canals are covered with boats, and in winter with sleighs and skaters. Women skate to market with baskets on their heads, and children skate to school. The canals, we see, are the roads of the country.

Windmills, with broad sails, are seen in all directions. Some are grinding grain, but most of them are pumping water out of the lowlands. The pastures are excellent; butter and cheese are made in great quantities.

The small farms are cultivated like gardens. The Dutch are great cattle-raisers and fishermen. The Holstein cows, which we prize so much, are brought from Holland. The dress of the people is strange and old-fashioned.

Belgium is one of the smallest kingdoms in Europe. Either Dakota would make six such countries, with land to spare. No other country in Europe is so thickly settled, and so crowded with houses. It has been called "one great city," and its lands are tilled so carefully that it seems like a garden. The farms are no larger than our small fields, but every farmer has a little patch of wheat or rye, a patch of corn, a patch of flax, and a patch of grass. The cows are kept in a stable, and the grass is cut for them.

In the north, the country is low, with many canals and windmills. It is protected from the sea by ridges of sand, which the winds have raised along the coast. The southern part of the country is more hilly.

They have some of the largest iron works in the world, and they manufacture the finest carpets and lace. Belgium has nine hundred schools, where lace-making is taught. Some of the finest laces sell for $350 a yard.

Brussels is the capital, and Brussels lace and carpets are known over the whole civilized world. A few miles south of Brussels is Waterloo, where Napoleon was defeated in a great battle.

Denmark is a low, level country. Grain, flax, and vegetables are cultivated, and there are many horses, cattle, and sheep. Many people fish for salmon, cod, and herring, which abound along the coast. The peasants weave linen and woolen cloth for their families. They use rude looms, set up in their own homes, and the daughter must learn to spin and weave.

NOTE.—Teachers will continue to require pupils to prepare written abstracts of each lesson, *without special direction from the author*. The "points" which have been given, at the close of each reading lesson, will, hereafter, be omitted. If pupils study the lesson before coming to the class to read, and if the teacher takes pains to converse with them, as the reading progresses, there will be little difficulty in securing fair abstracts.

READING LESSON XXXIV.

FRANCE, SWITZERLAND, AND AUSTRIA.

FRANCE is a republic, and one of the great countries of Europe. The people are industrious, and economical, and are noted for their politeness.

In the north are fields of grain, flax, and sugar beets. Middle France has thousands of vineyards. In the south are olive and mulberry groves, and fig orchards. Great quantities of sugar are made from the beet. The French wines are among the best in the world.

The season of grape gathering is a very busy one. Girls and boys, women and men, go to the vineyards with their baskets to gather the rich clusters of grapes, which are drawn to the press in loads.

The berries from the olive tree are pressed for their oil, or pickled for export. The leaves of the mulberry tree furnish food for the silk-worm. Chestnut trees are common in the forests, and many poor children are glad to get roasted chestnuts for food. They have no meat, nor wheat bread, nor pies, and yet they are very happy.

Silk goods are among the chief manufactures. The silk factories of Lyons employ one hundred thousand persons.

Paris, the capital, is the finest city in Europe. It has shaded streets, parks, gardens, and fountains. Its workmen have great skill in making fine things. We go to Paris for our fashions in dress.

Switzerland is a little republic among the mountains. Many people go there from all parts

LEANING TOWER OF PISA. ALPINE SCENE.
RUINS IN ATHENS.

of the world to see its grand peaks, its charming valleys, and beautiful lakes. Pretty villages are nestled in the mountain valleys.

The peasants keep many cows, sheep, and goats, and make large quantities of butter and cheese. Many of the inhabitants are watchmakers and toy carvers. Twenty thousand women work at watch-making in this country.

The brave Swiss have always maintained their freedom, in spite of the strong nations around them.

Austria is one of the leading states of Europe. The empire is made up of two countries, Austria and Hungary.

Austria has a mild climate. Grapes, and all kinds of grain grow well. Flax, tobacco, and silk are important products. With the exception of Switzerland, it is the most mountainous country in Europe. It has rich mines of coal, iron, copper, and other minerals. Its salt mines are the richest in the world.

In some of the large, underground chambers, formed by removing the salt, the miners have made a chapel, with pillars, arches, figures of saints, pulpit, and priests, all cut out of rock salt. The miners attend service here once a year.

Vienna, the capital, is nearly as large as the city of New York.

Queries.— Is politeness of any advantage to the French? Do we get watches or toys from Switzerland? Are children who live on rich food any happier than the peasants of Europe with their chestnuts? Have the Alps helped the Swiss to maintain their freedom? In what way?

READING LESSON XXXV.

SPAIN, PORTUGAL, ITALY, TURKEY, AND GREECE.

SOUTHERN EUROPE consists of three great peninsulas—Spain and Portugal, Italy, Turkey, and Greece.

Spain was a very prosperous country when, in 1492, King Ferdinand and Queen Isabella supplied Columbus with ships and men to sail westward over the unknown seas. The Spaniards conquered vast countries in the New World, but they have now lost most of them.

On the north are the Pyrenees Mountains, forming a high, broad wall, with difficult and dangerous passes. Their steep slopes are covered with forests, and the deep, narrow valleys are filled with clear, dashing streams. A large portion of Spain is elevated table-lands, suited only for pasturage. The merino sheep is raised here. It is noted for its fine wool. No other country has so many goats. Horses and mules are numerous.

The lowlands of the south have summer all the year. They produce the mulberry, olives, grapes, oranges, and figs. In the large forests grows a kind of oak whose thick bark yields cork.

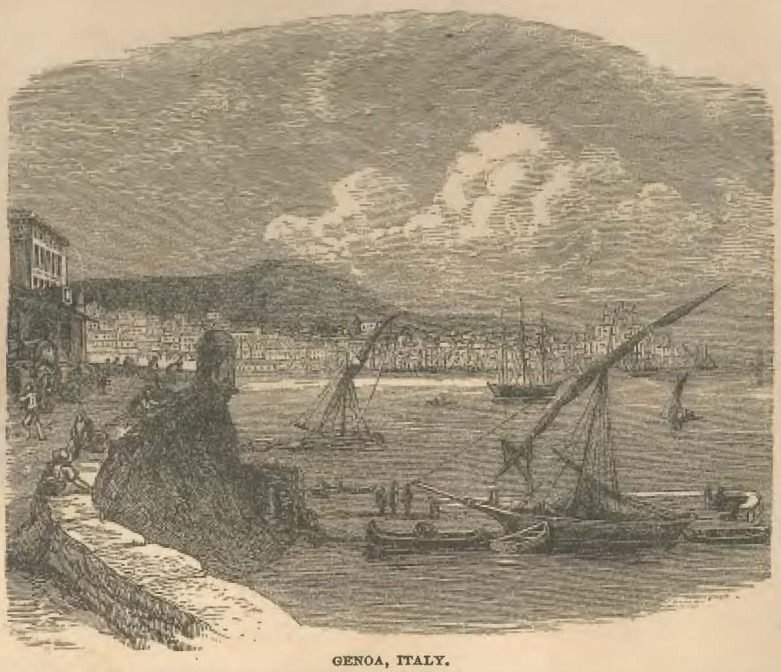
Spain possesses the most valuable mine of quicksilver in the world.

The Spaniards are not generally educated. There are many robbers along the mountain roads.

Madrid, the capital, is situated in the highlands. It has the grandest picture-gallery in the world.

Portugal is a small, weak kingdom. Its plateaus and valleys are somewhat like those of Spain. The people are lazy, and fond of low amusements. The cities swarm with beggars.

Lisbon, the capital, was once destroyed by an earthquake, and fifty thousand people perished in the ruins.



GENOA, ITALY.

Who may have stood upon the mountain in the background, gazing upon the beautiful bay, and dreaming of a world across the western ocean, four hundred years ago?

The Kingdom of Italy was the country of the ancient Romans, once the most powerful people in the world. Travelers visit this land to see its splendid churches, beautiful pictures, fine marble statues, and grand old ruins.

Italy has a delightful climate, and clear, blue skies. The plains of the river Po, south of the Alps, produce large quantities of wheat and rice, and they pasture great herds of cows whose milk is noted for its richness. The plains, valleys, and lower mountain slopes have large vineyards, and groves of mulberry, olive, and fig. Millions of bushels of chestnuts are raised, and many are ground into flour, which is much used for food.

The oldest and largest tree in the world, so far as known, is a chestnut near the foot of Mt. Etna, in Sicily, an island just off the coast of Italy. This tree is hollow, and big enough to admit of two carriages driving abreast through it. The circumference of the main trunk is two hundred and twelve feet.

The finest marble is quarried in the mountains, and beautiful buildings and statues are made from it. Large quantities are sent abroad. Italy has more sulphur than any other country. We go to Venice for beads, to Naples for coral-work, and to Tuscany for perfumery and hats.

Rome, the capital, was built hundreds of years before Christ. It contains St. Peter's, the largest church in the world. Its walls and ceilings are covered with paintings by the most skillful artists. The residence of the Pope, called the Vatican, contains four thousand rooms.

Venice is built on a number of small islands. It has canals for streets, and boats, called gondolas, for carriages. Naples is built on a beautiful bay. Mt. Vesuvius is within sight of the city.

This is a noted volcano, whose flames sometimes burst forth and are seen far out at sea. An irruption, eighteen hundred years ago, buried three cities in ashes and lava.

Turkey is a large country, ruled by a Sultan, whose empire extends into Asia and Africa. The land is fertile, producing wheat and other grains, mulberries, grapes, and olives. The people of one of the provinces cultivate large fields of roses, from which a delicious perfume, called attar of roses, is made. It takes one hundred and forty thousand roses to make an ounce of perfume.

Turkey is far behind other nations in Europe. Farming and manufacturing are neglected, and there are few railways, or even carriage roads. The men and women of Turkey have many odd ways. They wear long, flowing dresses, with a belt round the waist. The men wear a long scarf, called a turban, wrapped round their heads.

When the women go out, they wear thick, white vails over their faces. They sit on carpets, or cushions, instead of chairs. Most of the Turks are Mohammedans. They believe in God, whom they name Allah, and in a prophet who wrote a book called the Koran.

Greece is a small country, with a climate like that of Italy. Raw silks, honey, and currants are the principal exports. Ancient Greece had great poets, historians, orators, artists, and warriors. Although making rapid progress, it is still far behind most other countries of Europe.

Away to the northwest of Europe is the island of Iceland, which is noted for its geysers and hot springs. Mount Hecla is one of the most wonderful volcanoes in the world. Lava and ashes from this mountain once covered a large tract of land.

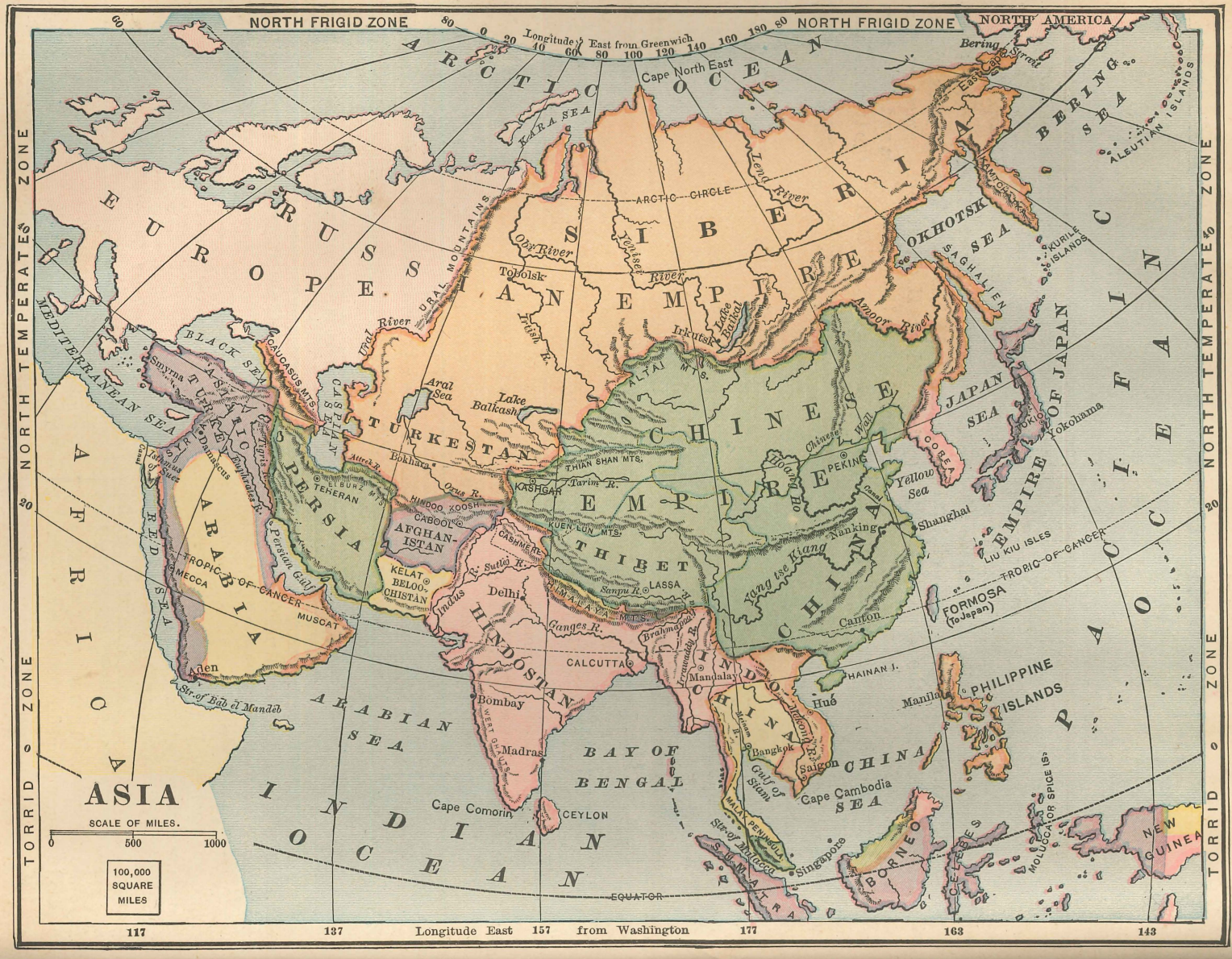
MONASTERY OF MONTE CASINO, ITALY.

The people raise potatoes, cattle, and sheep, and collect eider-down. They are quite intelligent.

Queries. — What are "grand old ruins?" What are statues? What cities were buried? Have they been found? Do countries, like Turkey, that neglect farming and manufactures, usually prosper? Why not?

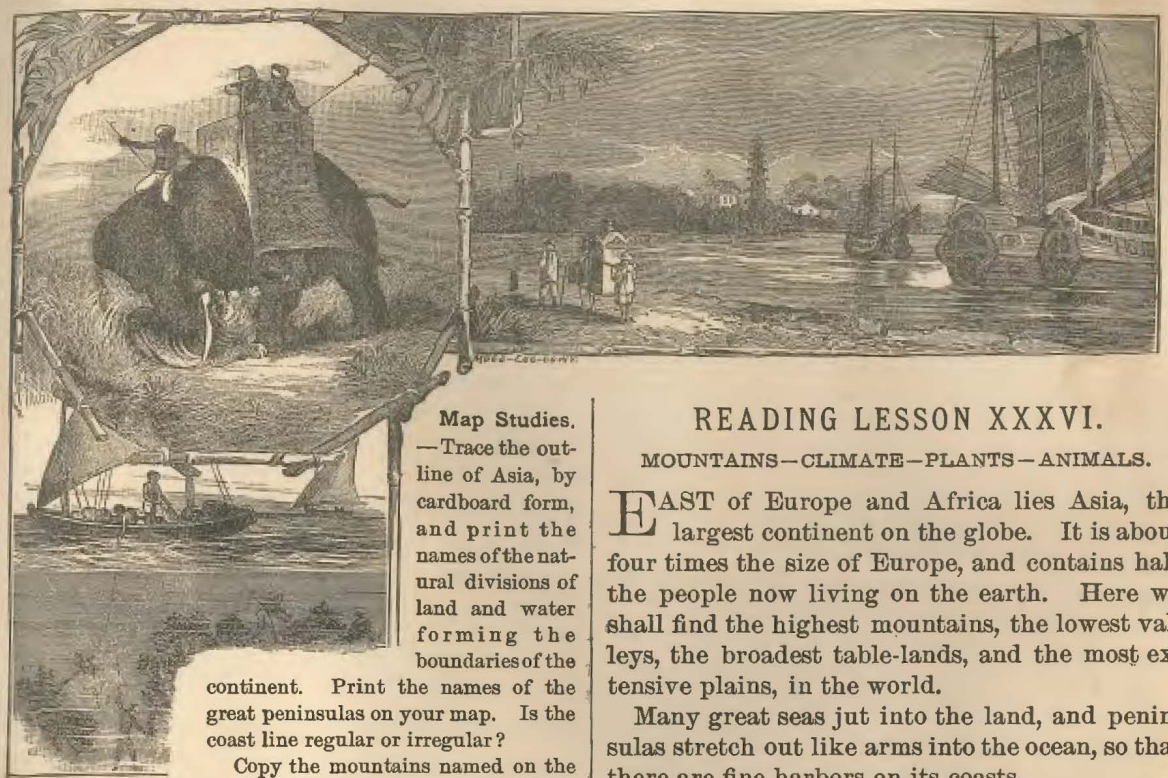
TOPICAL REVIEW OF EUROPE.

Write or tell what you can about the following topics: Size — Coast — Mountains — Rivers — Climate — Plants — Animals — Countries — Occupations — People.



ASIA
SCALE OF MILES.
0
500
1000
100,000 SQUARE MILES
NORTH FRIGID ZONE
NORTH FRIGID ZONE
NORTH AMERICA
Longitude East from Greenwich
Longitude East from Washington
117
137
157
177
163
143
TORRID ZONE
NORTH TEMPERATE ZONE
ARCTIC OCEAN
Cape North East
KARA SEA
ARCTIC CIRCLE
EUROPE
RUSSIAN EMPIRE
SIBERIA
BERING SEA
ALEUTIAN ISLANDS
KAMTCHATKA
OKHOTSK SEA
KURILE ISLANDS
SAGHALIEN
Lena River
Yenisei River
Obi River
Tobolsk
Irkutsk
Lake Baikal
Amoor River
ALTAI MTS.
URAL MOUNTAINS
Ural River
Irtish R.
Aral Sea
Lake Balkash
TURKESTAN
CHINESE EMPIRE
JAPAN SEA
JAPAN
Yokohama
COREA
Yellow Sea
PEKING
Chinese Wall
Hoang Ho
Shanghai
Nanking
Yang tse Kiang
CHINA
Canton
FORMOSA (To Japan)
LIU KIU ISLES
TROPIC OF CANCER
PACIFIC OCEAN
EMPIRE OF JAPAN
MEDITERRANEAN SEA
BLACK SEA
CAUCASUS MTS.
CASPIAN SEA
Smyrna
ASIATIC TURKEY
SYRIA
Damascus
Euphrates R.
Tigris R.
Isthmus of Suez
Canal
ARABIA
RED SEA
MECCA
TROPIC OF CANCER
MUSCAT
Aden
Str. of Bab el Mandeb
Persian Gulf
PERSIA
TEHERAN
ELBURZ MTS.
Attrek R.
Bokhara
Oxus R.
HINDOO KOOSH
CABOOL
AFGHANISTAN
KELAT
BELOOCHISTAN
Indus R.
Sutlej R.
Delhi
HINDOSTAN
CASHMERE
KASHGAR
Tarim R.
THIAN SHAN MTS.
KUEN LUN MTS.
THIBET
LASSA
Sanpu R.
HIMALAYA MTS.
Brahmaputra R.
Ganges R.
CALCUTTA
Irrawaddy R.
Mandalay
INDO CHINA
HAINAN I.
Hué
Manila
PHILIPPINE ISLANDS
Bombay
WEST GHAUTS
Madras
Cape Comorin
CEYLON
BAY OF BENGAL
ARABIAN SEA
INDIAN OCEAN
Meinam R.
Bangkok
Gulf of Siam
Mekong R.
Saigon
Cape Cambodia
CHINA SEA
MALAY PENINSULA
Str. of Malacca
Singapore
SUMATRA
BORNEO
CELEBES
MOLUCCA OR SPICE IS.
NEW GUINEA
EQUATOR

ASIA.



What are the men gathering?

Map Studies.—Trace the outline of Asia, by cardboard form, and print the names of the natural divisions of land and water forming the boundaries of the continent. Print the names of the great peninsulas on your map. Is the coast line regular or irregular?

Copy the mountains named on the map. Which portion of Asia is least mountainous?

Copy the great rivers, and print names. Do the rivers seem larger or smaller than those of Europe? Do all the rivers flow into the ocean? Are there any countries with few or no rivers? Are there any long, cold slopes?

Copy the boundaries of countries, and print their names and the names of their capitals. Name the three largest countries. Name the three which you think are next in size. Six small countries. Copy the Island Empire, and print its name on your map.

In what zones is Asia? Which zone contains most of the land? Do you think Siberia is a warm country? Are Arabia and Persia rainy countries? Why do you think so? Is British India a very warm country? What kinds of plants may we expect to find in Southern Asia? In Northern Asia?

Is this map drawn on a larger or a smaller scale than the map of Europe? Find the greatest length of land. What is the length of British India? Of the Chinese Empire? Of Arabia? Of the Obi River? Of the longest river in the Chinese Empire? Of the Ganges? Of the Caspian Sea?

READING LESSON XXXVI.

MOUNTAINS—CLIMATE—PLANTS—ANIMALS.

EAST of Europe and Africa lies Asia, the largest continent on the globe. It is about four times the size of Europe, and contains half the people now living on the earth. Here we shall find the highest mountains, the lowest valleys, the broadest table-lands, and the most extensive plains, in the world.

Many great seas jut into the land, and peninsulas stretch out like arms into the ocean, so that there are fine harbors on its coasts.

The Himalayas are the highest mountains in the world. This range is 1,500 miles long, and 100 to 350 miles broad. It has peaks higher than any bird can fly, or balloon can rise. The top of Mt. Everest is five and a half miles above the sea.

The natives call this peak the "Abode of Light." The sun shines upon its crest more than an hour before its beams are seen in the valleys below. The high mountains of Mexico are 2,000 feet lower than this giant among the mountains.

If the traveler could stand on its summit, he would see a region larger than the United States. On the great ice plateaus about it, the roar of the avalanches in the spring-time is like the roar of thunder. The shadow of Mt. Everest, as it moves over the plains of Thibet, is the natives' sun-dial.*

No mountains are so hard to climb as these. There are gorges so deep that it is twilight in them all the time. There are frightful precipices, gloomy forests, and, higher up, great wastes of ice and snow.

Farther north is a plateau extending hundreds

* See *Youth's Companion*, November, 1884.

and hundreds of miles. In some places this plateau is covered with loose, drifting sand, and in others with bare rocks.

The southern part of Asia has a hot climate, and produces cotton, silk, rice, coffee, and many kinds of fruit. The forests contain cinnamon and fragrant gum trees, which fill the air with sweet perfume. Here are the tall bamboo; the orange tree, with its beautiful flowers; the fan palm, with its huge leaves, each large enough to cover a dozen men; the wonderful banyan tree, whose branches take root and form new trunks.

Farther north is the tea plant, and the mulberry tree, on whose leaves the silk-worm feeds. In the extreme north, vegetation is similar to that found in Northern Europe.

Most of our domestic animals, such as the cow, the horse, and the sheep, are natives of Asia, and have traveled westward with man. The great deserts are crossed by the two-humped camel.

Far to the north, the hardy reindeer draws his master over the snow, and in the south the powerful elephant is a beast of burden. The tiger, the rhinoceros with his horn, and many poisonous serpents, live in the jungles of the south, and here the huge crocodile has his home in the swamps and rivers.

READING LESSON XXXVII.

SIBERIA.

IN the northern part of Asia, is a country called Siberia, which is a part of the great Russian Empire. It is larger than all Europe. Its rivers flow into the Arctic Ocean, and nearly the whole country slopes to the north, and can not get the full heat of the sun.

All the northern coast of Siberia is swampy, the ground is frozen several feet deep, and in winter it is covered with ice and snow. The ocean is also frozen for hundreds of miles from the coast. We can hardly tell where the land leaves off and the sea begins.

The summer is short and cold, and the ground thaws but two or three inches. A thin growth of moss then springs up, great herds of wild reindeer come here, the polar bear and black fox abound, the rivers teem with salmon and sturgeon, and thousands of whales and seals haunt the coast.

During the cool summer, the sun does not set for three months. When the winter night comes on, there are three months when the sun does not rise, and no light is seen but the cold streaks of the aurora borealis, and the pale light of the stars. Then the reindeer and foxes retreat to the south, and the whales seek the open sea.

The middle belt of Siberia, far back from the Arctic Ocean, is a continuous forest of fir, pine, larch, and birch, swarming with sables, ermines, squirrels, wolves, lynxes, bears, and beavers. Here are hunters and trappers.

Along the southern borders of this great country are plains, or steppes, like our prairies, adapted to grazing. Pasturing cattle is here the business of the people. Grains and fruits are raised in some places.

Three-fourths of the inhabitants of Siberia are exiles from Russia, or their descendants.

Trade is carried on in a strange way. Large caravans of camels, miles in length, cross over the mountains from China, bringing tea, silk, satin, and rhubarb, and returning with metals, furs, and cutlery, from Russia. Long trains of sledges, drawn by reindeer or dogs, carry these Chinese goods away across the Ural Mountains, hundreds of miles to the west, to be sold at the great fairs in Russia.

Queries.—What is meant by the aurora borealis? What is meant by an exile?

READING LESSON XXXVIII.

CHINA.

WE will leave Siberia and visit China. On the north is the Great Wall, which was built more than two hundred years before Christ, to keep off bands of robbers from the tribes in the mountains and on the plateaus. This wall is 1,200 miles long, twenty-five feet high, and wide enough for six horsemen to ride abreast. It took several millions of men ten years to build it.

It is said that, "every third child born into the

world, looks into the face of a Chinese mother; every third pair given in marriage, plight their troth in a Chinese cup of wine; every third orphan, weeping through the day, and every third person who comes to die, is a Chinese." There are so many people that great care has to be taken to raise sufficient food. Every hand must be busy.

The emperor, and other great men of state, go out into the field every year to plow a furrow, as an example to the nation. The queen raises silk-worms, and spins the glossy threads with her own hands, that other women may not feel too proud to labor.

The hillsides are terraced. The rocks are covered with earth, and the bottoms of the streams are planted with roots which can be used for food. Thousands of people live on boats for want of room on the land. Children are born on these boats, and here they grow up and have no other home.

FISHING IN CHINA.

China raises tea for nearly the whole world. Many of her people are employed in cultivating the tea plant, and in picking and drying its leaves. Large quantities of silk are also produced, and the mulberry tree is cultivated, to supply the silk-worm with food. Rice, cotton, maize, and fruits are raised. Rice is the chief food of tne people. The Chinese boy is happy with his dish of boiled rice, and whole families have nothing else for dinner, supper, or breakfast.

The Chinese make houses, and boats, and furniture from the bamboo. Next to the rice crop, it is the most valuable production of the country. They invented gunpowder, the mariner's compass, paper, clocks, and other useful things. Almost everything which they wear, or use in the house or out of doors, is made by hand. There is very little machinery.

There are many schools and many books in China, and most of the men can read and write, but the women do not have so good a chance. The children are taught great respect for their parents and grandparents, and other aged people. This is one of the "strange things" which we may copy in our country.

The clothing of the people is made of cotton and silk, and their garments are curiously cut. The men shave their heads, leaving a tuft of hair to be braided, which sometimes grows so long that it comes half way to their knees.

The women of rank hobble about on their small feet, which were bandaged in babyhood to keep them from growing too large. People dress in white for mourning. They ride in carriages carried on the shoulders of servants, and eat with chop-sticks instead of knives and forks.

China has many large cities. Some of them are built on rivers that are navigable for hundreds of miles. Peking, the capital, has more than a million inhabitants. It is surrounded by a high, thick wall.

Nanking, on the mighty Yang-tse-kiang, manufactures silk and a cloth called nankeen'. Canton, on Pearl River, is a great commercial city, exporting tea, silk, and other products. More than a hundred thousand of its people live in boats anchored on the river.

MANDARIN PROCESSION.

When a mandarin goes abroad, he is attended by as many servants as he has, or can hire. He dresses in silken robes, and sits in a sedan chair with a scarlet covering over his head, and is borne along as we see in the picture. Strangely dressed groups go before and behind the chair, carrying umbrellas of all forms and colors, banners, flags, and pennons, fiery red and ragged. Musicians lead the procession, beating and banging on gongs, clattering sticks, and tan-ta-ra-ing the drums.

[Read Seward's *Travels Around the World.*]

Queries.—Do men build walled cities in these days? Why not? Do children in China think our ways are strange? Is white a good color for mourning?

READING LESSON XXXIX.

JAPAN AND INDO-CHINA.

THE Empire of Japan consists of five large islands, and many smaller ones, and there are more people in it than in the British Isles. The Japanese belong to the same race as the Chinese, but they are very different in many respects.

The harbor of Yokohama, where we shall first land, is very large and beautiful. Here are the ships of many nations, gay with flags. The land rises gradually from the shore, and the hills and valleys are green. The towering peak of Fu-si Ya'-ma, the sacred mountain of Japan, rises in the background.

The people of Japan were once afraid of foreigners; but they have now opened their sea-ports to trade, and are sending their young men to our colleges.

They have railroads, and steamboats, and newspapers, and books full of pretty pictures, and there are thousands of schools for the children. They are industrious, polite, and skillful as traders. Many of the houses are built of fir and cedar, and thatched with bamboo and cane. There are temples of worship, where the people go in throngs. They manufacture silk goods, beautiful porcelain, paper, and many other things. Silk and tea are the most valuable productions.

Many of the hilltops are covered with cypresses, yew trees, pines, chestnuts, and camphor trees. At the foot of the hills we often find thick groves of bamboo. In the most populous parts of the empire, not a foot of ground is wasted, every hill is terraced, every acre irrigated. No room is left for wide roads between the fields.

Instead of large farms, there are small plats, and each is tilled with cotton, flax, wheat, barley, beets, peppers, sweet potatoes, turnips, and other vegetables by a single family, with the same care we give to our flower beds. Every head of rice or wheat, or boll of cotton that blows down, is bent back and kept in place till ripe, and every head is saved in harvest.

The Japanese think a great deal of their coarse, black hair. Barbers are seen in the most public places every hour of the day. The hair of the men is shorn from the crown, and left long on the sides and back, to be drawn upward and tied. The women fasten theirs with red and gilt pins.

Women who are not married must wear a badge so that people may know. After marriage they

shave their eyebrows, stain their teeth jet black, and remove the ornaments from their hair. The dead are buried on the hillside, and the graves are kept shaded and green. The priests dress in white robes of silk.

Tokio is the largest city. It has beautiful gardens, canals, a college, and asylums for infants and poor people. It is somewhat larger than the city of New York.

Indo-China is the southeastern peninsula of Asia. The climate is very hot. Rice and sugar-cane are the principal crops. Almost every kind of tropical plant grows here, such as the palm, the bamboo, gutta-percha, sandal-wood, which is burned as incense in the temples, and teak, which is used for ship-building.

The forests swarm with tigers, serpents, elephants, and the ou-rang-outang (o-rang'-oo-tang). The elephant is used in the army instead of the horse. The white elephant is regarded as sacred, and is kept in a palace. There are so many people in Bangkok', the largest city and capital, that thousands live on bamboo rafts.

Queries.—Why are there no wide roads in Japan? Why do not *we* save every head of wheat and grain of corn? Will people who are "polite, industrious, and skillful as traders," be likely to prosper.

There are many large cities. If we land at Calcutta, we shall see rajas, or princes, in jeweled turbans; dusky sepoys in white and red uniforms; baboos, or men of wealth, in white cambric; Parsees, with their tall, pointed hats; Mohammedans on their knees in prayer; and English officers in their gay uniforms.

TEMPLES AT BENARES, ON THE GANGES.

The city of Benares contains between three and four hundred temples, where the people from all parts of India meet to worship.

If we go to Benares, we shall find more than a thousand pagodas, and mosques, with their tall spires like our churches. Here the people come from all parts of the country to worship and to bathe in the waters of the Ganges. Men, women, and children plunge into the stream, thinking that by this act they will be cleansed from sin. As they come from the water, they dress in pure white robes, and many carry away urns and vases filled from the flood of the sacred river.

The banyan tree is found here, and it sometimes has three hundred and fifty trunks. Its branches often cover acres of ground. Such a tree would easily shelter a whole camp-meeting from the hot sun.

READING LESSON XL.

BRITISH INDIA.

BRITISH INDIA forms a part of the British Empire. It is near the Equator, and has a hot climate. Here we shall find a large country, and many people. The English rule the natives. They have built long railroads, and dug many canals to irrigate or water the lands. "In the deserts, water is wealth."

As we travel through the country, we see great fields of poppies with their white blossoms, and yellow rice fields ready for the sickle. In some places are wheat, millet, and other grains. There are orchards of bananas, tamarinds, and mangoes, filling the air with their fragrance. Hedges are made of richly flowering cactus.

A GROUP OF PARSEE CHILDREN.

The Parsees are worshipers of fire. They are much respected by Europeans, on account of their honesty and good morals.

Goats and cattle feed under cocoanut trees, and grow fat on the green herbage. Green parrots, red flamingoes, the solemn stork, and the stately adjutant-bird are seen on every hand.

Native princes dress in robes of kincob, woven of the richest silk and finest gold. On state occasions, they ride on elephants, covered with cloth of gold and red, with gilt earrings and necklaces. Trains, or caravans, of oxen, asses, and camels are used to carry goods from place to place.

The natives make beautiful ornaments of sea shells, precious stones, tigers' claws mounted with gold, tigers' skins, and the feathers of birds.

In the northern part of India is a beautiful country called Cashmere. Here are mountains, lakes, and clear streams, fields of wheat, corn, and barley, and orchards of apples, pears, apricots, and cherries. The valley of Cashmere is surrounded by lofty mountains.

The hair of the Cashmere goat is brought from a country called Thibet (tibet). Women spin and dye it. It is then woven in rude hand looms, or worked with wooden needles. Three or four men sometimes spend a whole year in making a pair of shawls. The Cashmere shawl is the finest in the world.

Queries.—Why is it said that "Water in the desert is wealth?" How can a banyan tree have so many trunks? Why do people raise large fields of poppies? Why is it that the Hindoo or native princes of India have great wealth? Who are Parsees?

READING LESSON XLI.

OTHER COUNTRIES OF ASIA.

TURKISTAN (toor-kis-tan'), Afghanistan (af-gan-is-tan'), and Beloochistan (be-loo-chis-tahn') contain mountains, desert plains, and fertile valleys. On the borders of the desert plains are grazing lands, where roving and warlike tribes pasture horses, cattle, camels, sheep, and goats. The deep, dark gorges, or passes, through the mountains are traversed by caravans carrying spices, gums, and precious stones, from India to Turkey and other western lands.

Persia lies between the Caspian Sea and the Persian Gulf. Much of the country has little rain, and is dry and barren, but there are many rich valleys, watered by mountain streams, which produce grains, silk, grapes, peaches, and melons.

Here are large fields of roses, from which a costly perfume is made. Hyacinths, crocuses, and primroses grow wild. Our peach and melon came from this land. The Persians make beautiful carpets and shawls.

East of the Red Sea is Arabia. A large portion of this country is a desert land, with here and there a fertile spot called an oasis. The date palm grows on the borders of the desert. Its fruit is used for food. The southern part of Arabia is very hot, and there are forests of spice and gum trees. Mocha coffee, the best in the world, grows here

Many of the people live in the desert. They have horses and camels. Their horses are swift and handsome, and an Arab is said to love his horse as much as his wife.

Mecca, the birthplace of Mohammed, is regarded as a holy city. Thousands of people,

from Europe, Africa, and from other countries in Asia, come to Mecca every year. They believe that a pilgrimage to this city helps to secure the forgiveness of all sins.

There is a large, black stone in one of the mosques which Mohammedans think very holy. It has been worn smooth from being kissed so much. Mohammed is regarded by many, many people as a great prophet, sent by their God, whom they name Allah.

Turkey in Asia forms a part of the Turkish Empire, which is ruled by a Sultan, who lives in Constantinople. Deserts are found in many parts, but grain, fruits, tobacco and poppies are raised. There are many mulberry groves, and much silk is produced.

The Turks shave their heads and wear turbans instead of hats. They eat with their fingers instead of forks, sit on the floor, smoke long pipes, and amuse themselves by telling long tales. They are fond of coffee and opium. They believe in the Koran, instead of the Bible.

Palestine is the most interesting country. Here are Jerusalem, Bethlehem, the river Jordan, the Sea of Galilee and of Tiberias. Here Christ was born, and here he died on the cross.

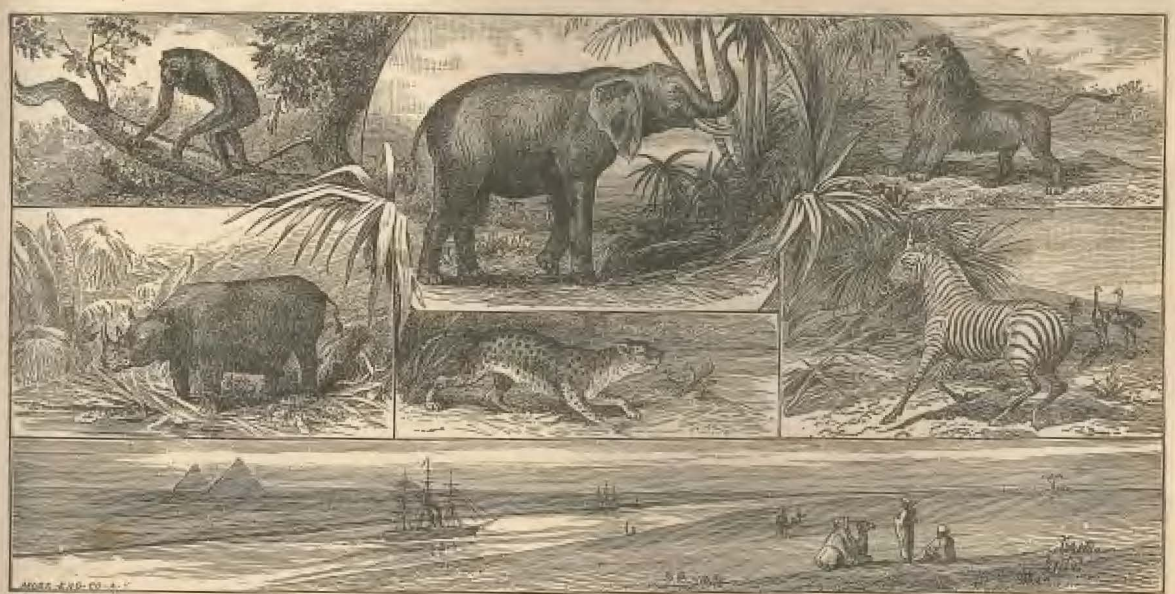
Damascus is the oldest city in the world.

Queries.—Why do the tribes of the desert rove from place to place?

TOPICAL REVIEW OF ASIA.

Write what you can about the size, mountains, rivers, seas, climate, plants, animals, and people of Asia.

AFRICA.



Gorilla. Rhinoceros. Leopard. Elephant. Lion. Zebra.

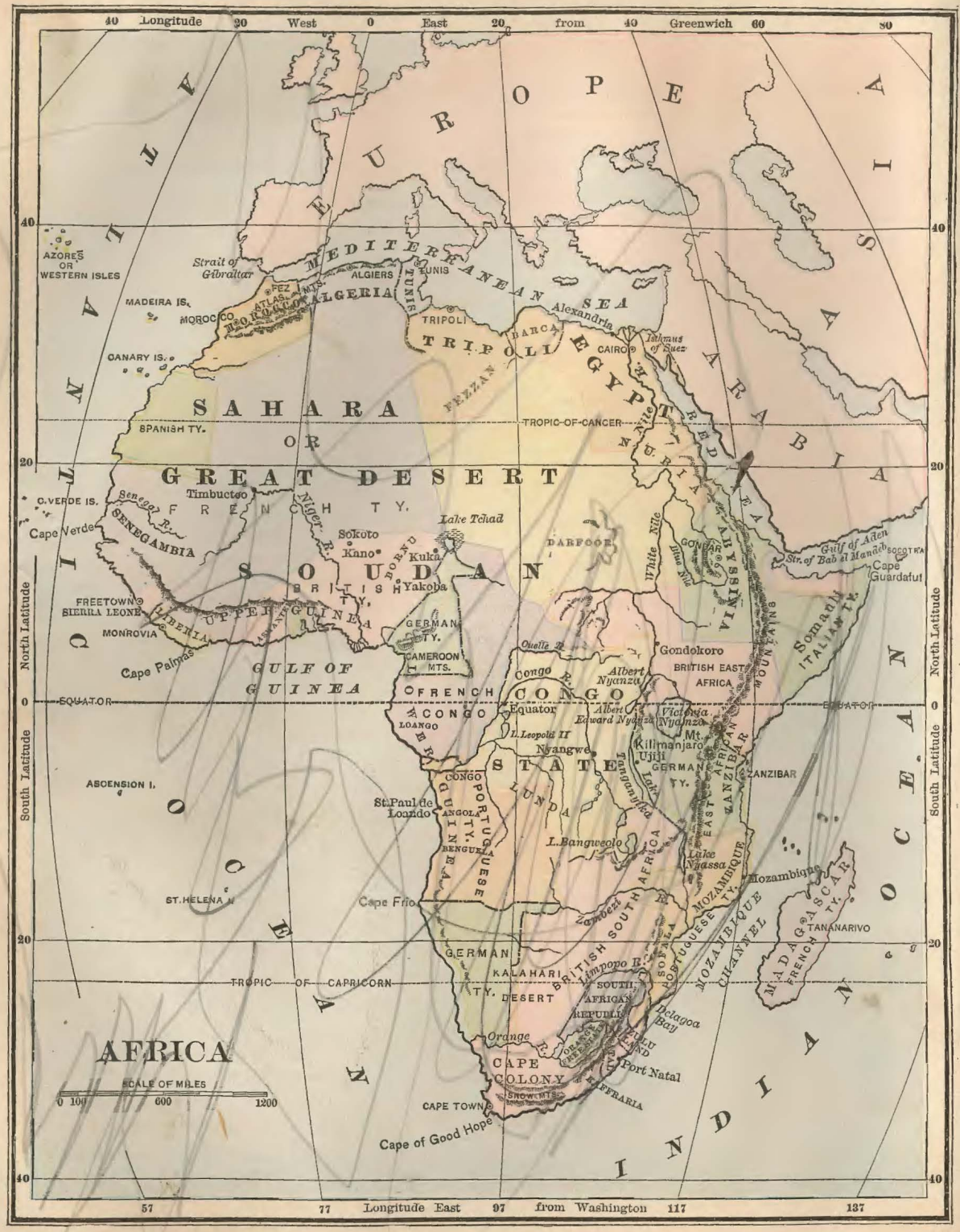
THE SUEZ CANAL AND AFRICAN ANIMALS.

[See Map on page 56.]

Map Studies.—Trace the outline of Africa, and print names of the natural divisions forming the boundaries of the continent. Is the coast more or less regular than the coast of Europe? Do you think there are many good harbors on the coast?

Copy mountain ranges, and print names on the map. Are the mountains far from or near to the coast? Which is the most mountainous, Africa or Europe? Which has the longest ranges, Africa or North America?

Copy the rivers, and print their names. Are there few or many rivers? Are there parts of the continent with-



Longitude West East from Greenwich
EUROPE
ASIA
ARABIA
ATLANTIC OCEAN
INDIAN OCEAN
MEDITERRANEAN SEA
AZORES OR WESTERN ISLES
MADEIRA IS.
CANARY IS.
Strait of Gibraltar
MOROCCO
FEZ
ATLAS MTS.
ALGIERS
ALGERIA
TUNIS
TRIPOLI
TRIPOLI
BARCA
FEZZAN
Alexandria
CAIRO
Isthmus of Suez
EGYPT
Nile R.
NUBIA
RED SEA
SAHARA OR GREAT DESERT
SPANISH TY.
TROPIC OF CANCER
C. VERDE IS.
Cape Verde
Senegal R.
SENEGAMBIA
Timbuctoo
FRENCH TY.
Niger R.
Sokoto
Kano
BORNU
Kuka
Lake Tchad
DARFOOR
White Nile
Blue Nile
GONDAR
ABYSSINIA
Gulf of Aden
Str. of Bab el Mandeb
SOCOTRA
Cape Guardafui
SOUDAN
BRITISH TY.
Yakoba
FREETOWN
SIERRA LEONE
MONROVIA
LIBERIA
UPPER GUINEA
ASHANTI
GERMAN TY.
CAMEROON MTS.
Cape Palmas
GULF OF GUINEA
Ouelle R.
Congo R.
Gondokoro
BRITISH EAST AFRICA
MOUNTAINS
Somauli
ITALIAN TY.
Albert Nyanza
Albert Edward Nyanza
Victoria Nyanza
Mt. Kilimanjaro
Ujiji
EQUATOR
FRENCH CONGO
LOANGO
CONGO
Equator
L. Leopold II
Nyangwe
STATE
Tanganyika
Lake
GERMAN TY.
EAST AFRICAN
ZANZIBAR
ZANZIBAR
ASCENSION I.
CONGO
PORTUGUESE TY.
ANGOLA
BENGUELA
St. Paul de Loando
LUNDA
L. Bangweolo
Lake Nyassa
MOZAMBIQUE TY.
Mozambique
MADAGASCAR
FRENCH TY.
TANANARIVO
ST. HELENA I.
Cape Frio
Zambezi R.
BRITISH SOUTH AFRICA
SOFALA
PORTUGUESE
MOZAMBIQUE CHANNEL
GERMAN TY.
KALAHARI DESERT
Limpopo R.
SOUTH AFRICAN REPUBLIC
Delagoa Bay
TROPIC OF CAPRICORN
Orange R.
ORANGE FREE STATE
ZULU LAND
Port Natal
CAPE COLONY
SNOW MTS.
KAFFRARIA
CAPE TOWN
Cape of Good Hope
AFRICA
SCALE OF MILES
0 100 600 1200
North Latitude
South Latitude
Longitude East from Washington

out rivers? Look at the different maps, and tell which continent has the fewest rivers.

Print the names of the countries on your map, without drawing the boundaries, unless your teacher shall so direct. Which of these countries is drained by the Nile?

In what zones does Africa lie? Which of the zones covers most of the continent? Is it a hot or a cold continent? What continent is it most like in respect to heat? Is there any large portion of the continent without rain? Point it out. Do you think it a wetter or a dryer continent than South America? What makes you think so? May we expect to find the palm, and other tropical plants, in Africa? Have you seen any animals that came from Africa? What were they?

Find the greatest length and width of Africa. The length of the river Nile. The length and width of the Great Desert. How far from the mouth of the Congo to the lake in which it rises? What is the length of the island of Madagascar?

READING LESSON XLII.

THE NILE AND THE SAHARA.

LET us cross the Mediterranean and visit Africa, the home of the negro. It is next in size to Asia, and is joined to it by the Isthmus of Suez. Its coast line is very different from that of Europe, and there are few good harbors. This has prevented trade upon the ocean, and is one reason why we know so little of its people, and of the country itself.

That part of Africa which lies near the coast is generally low, and the interior is mostly table-land. The mountains are not so grand as those of the other continents. The Nile, Niger, Congo, and Zambezi are its four great rivers.

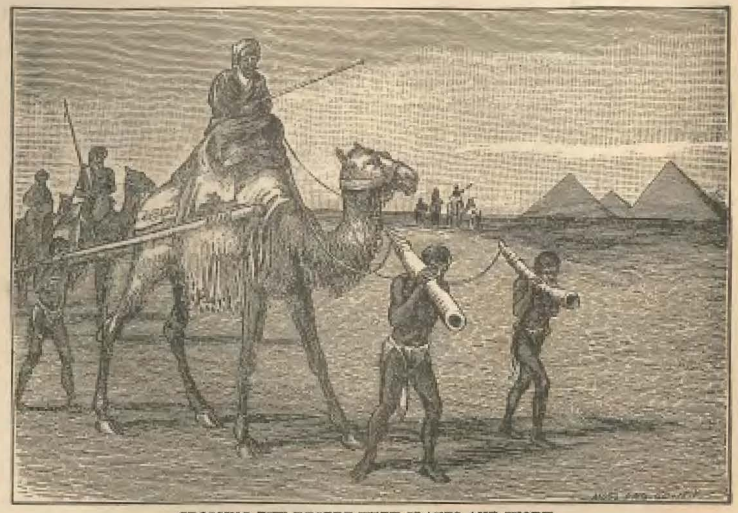
The Nile is as long as our own Mississippi. For hundreds of miles above its mouth it flows through countries where it never rains, and yet it commences to rise in the month of June of every year, and gets higher and higher for three months. The whole valley is then overflowed, and the country is like a great lake. When the water goes down, the land is covered with rich mud, which has been brought on by the river. In this mud the farmer sows his grain, and plants his seeds.

How strange it must seem to have a freshet without a drop of rain or even a cloud in the sky. For thousands of years men wondered from whence the flood of waters came.

At last, brave travelers traced the river far back, and found that the upper part of its course is through countries where the rain falls in torrents during the early summer months. The waters rush down the long river, and, at last, reach and overflow the land of Egypt, where it never rains.

Africa is the hottest of the continents, and large portions of it consist of rainless deserts. If we travel through Africa, from north to south, we first cross a country having a temperate climate, and yielding grain, mulberries, grapes, and olives.

On the Atlas Mountains we find forests of oak and beach. The snow lies on their summits in winter, and, melting in spring, it forms streams and springs, which water the lowlands.



CROSSING THE DESERT WITH SLAVES AND IVORY.

To the south, they water the borders of the desert, but are soon dried up in its hot sand. Here are fertile spots, with green pastures and groves of date palm, whose fruit furnishes food for the shepherds who watch their flocks in this region.

Then comes the desert of Sahara, which is nearly as large as the United States. In some parts we find only burning sand and barren rocks. No blade of grass, nor tree, nor drop of water, is seen, as we press on, day after day. Other tracts are covered with low, stunted herbage, and far, far apart, are springs, with green grass, and palms, and vines. Salt is found in many places.

The camel is the only beast of burden that can endure the burning sands and the scorching winds of the Sahara. He has been called the "Child of the Desert."

"This homely old fellow, with broad, thick soles to his feet, to protect them in the hot sand; with leathery pads on his thighs, on which he rests when he lies down; with great cells or cups in his stomach, to store up water enough to last for days; with flaps in his nostrils, which he closes to keep out the blasts of sand; with his great hump of fat on his back, which is a store of food, and wastes away during his long fasts—he is the fellow that carries his load of five hundred pounds across the pathless wastes."*

Caravans, containing hundreds of camels, cross the Sahara on many different routes, bearing cotton goods, beads, and other ornaments, for the negro tribes farther south, and returning with ivory, gold dust and ostrich feathers, for the people of Europe and America.

Queries.—Why are the travelers who reached the head-waters of the Nile called "brave?" What are some of the dangers African travelers must meet?

Near the rivers, in this part of Africa, the lands are often low and marshy, and white travelers, who go there to explore the country, are frequently seized with fevers. Southern Africa has less heat, and, far to the south, the climate

STRANGE PLANTS OF AFRICA.

is temperate. A great plain, called the Kalahari Desert, is barren in the dry season, but is clothed with tall grass and gay flowers in the wet.

Africa is the home of many of the largest animals in the world. The huge hippopotamus, or river horse, basks in the rivers and lakes by day, and feeds on coarse, rank grass in the swamps and jungles by night. The thick-skinned rhinoceros grazes on the plains or plucks the leaves from the trees in the jungle.

The tall giraffe strips off the leaves from the tree-tops with his ribbon-like tongue, and the spotted hyena crunches the largest bones with his strong jaws. Crocodiles abound in the large lakes and rivers, and bathing is very dangerous on account of these reptiles.

The lion and the leopard are among the beasts of prey. Troops of monkeys are found in the forests. The gorilla resembles a huge man; he lives with his mate in the thick, solitary forests of Western Africa, feeding on roots, fruits, and leaves. He walks on all-fours, but, when he is in his home among the tree-tops, his long, strong arms and naked palms grasp the boughs and pull his heavy body upward, as he climbs hand-over-hand.

READING LESSON XLIII.

PLANTS AND ANIMALS.

FARTHER south, in Central Africa, and in the coast regions near the Equator, there is a wet and a dry season every year. This part of the continent yields all kinds of tropical products, and there are dense forests somewhat like those on the Amazon. We find the cocoa palm, with its milky fruit; the palm oil tree, yielding its yellow oil; and the huge baobab tree, with its wide-spreading branches, so broad that a thousand men can sit in its welcome shade, and so old that the Queen of Sheba might have rested under it when on her journey to visit Solomon.

The baobab blooms in July and August, the blossoms being of a rich royal red, and resembling, in size and hue, large red hollyhocks. The tree is nearly always hollow, and stores up for itself, during the wet season, a supply of water for the rest of the year. The natives of Soudan use the trunks for water tanks.

*Read *Winners in Life's Race*, by Arabella B. Buckley.

The African elephant is found south of the Sahara. It delights in well-watered regions, where there are plains, forests, and lowlands, with rich herbage. More than a thousand elephants are sometimes seen in a herd. The people of Africa do not tame the elephant, or use it as a beast of burden; but they kill great numbers for the ivory, which they sell, and for the flesh, which they use as food. The African elephant has large ears, which cover his shoulders. His tusks are sometimes nine feet in length, and they often weigh more than one hundred pounds each.

"With his trunk the elephant can pick up a crumb, or root up a strong tree; gather a leaf, or tear off a branch; draw up a gallon of water to squirt over his body when heated by the sun, or suck a few drops from a puddle when water is scarce. With it he caresses those he loves, as gently as a mother strokes her child with her hand; or uses it to dash his enemy to the ground."

On the plains, toward the south, are beautiful antelopes, in countless herds, and also the striped zebra, and a curious animal called the gnu, or horned horse. The ostrich is found in all parts of the continent, but it delights in the borders of the desert. It is the largest bird in the world, and though it can not fly, it can run with the fleetest horse. The feathers of the ostrich are brought to this country to adorn ladies' hats.

The social weaver birds of Southern Africa build a nest under a common roof. It is suspended from the limbs of a tree, and many birds join in making it. One row of nests after another is added, until hundreds of birds are sheltered, and the nest hangs like a huge bell in the tree-tops. It is often mistaken for the hut of a native, and is large enough to shelter five or six men.

The driver ants of Western Africa are so named because they drive every living creature. In their march they carry destruction before them, and no beast will cross their track. They have been known to destroy the agile monkey. When they enter a pigsty, they soon kill the imprisoned swine. Fowls they destroy in numbers; all the chickens of a roost are sometimes killed in a single night. Boys, how would you like to keep biddies in that country?*

Queries.—Which of the chief animals of Africa are flesh-eaters? If you were traveling in Africa, would you most fear the animals or the men?

*Read *Homes Without Hands*, by Rev J. G. Wood.

READING LESSON XLIV.

COUNTRIES AND PEOPLE.

THE northern countries of Africa are inhabited by people who belong to the Caucasian race. Many of them are descendants of Mohammedan Arabs, who conquered the country long ago. South of the Great Desert nearly all the people are negroes, and nearly all are ignorant savages, except in Soudan, where there are many half-civilized tribes.

It is said that one of the African tribes lives in the tree-tops, and that some eat the prisoners taken in war. The Hottentots, who live toward the south, are a degraded race. One tribe, called Bushmen, have no houses or tents; they sleep under bushes, in the cleft of a rock, or in a hole in the ground; and eat roots, grasshoppers, and worms.

A few tribes are quite intelligent, living by their flocks and by cultivating corn, rice, and other plants. The Zulus, of Southern Africa, are of this class. Some of the rulers of the tribes were very kind to Dr. Livingstone and other explorers. Large colonies of Dutch and English are found in the southern part.

Egypt is the oldest land whose history we know. We read of this country and of its people in the Bible. Here are great temples and pyramids, which were built thousands of years ago.

The pyramids are stone buildings, large at the bottom and drawn in on all sides till they come to a point at the top. One of these is 460 feet high, and covers thirteen acres of ground. They are among the wonders of the world.

We have learned how the land is watered and made rich. The farmers who cultivate the valley of the Nile raise wheat, barley, corn, rice, and cotton. Their houses stand in villages on the high grounds, above the floods of the river. In the dry season the fields are watered by canals which run over the valley in all directions.

Water is then carried to distant villages in urns poised on the heads of women, and in skin bottles borne by men. The ox and donkey and camel are beasts of burden, and the Arab driver

rarely abuses his dumb beast. There are large flocks of sheep and black goats.

THE SPHINX.

The Sphinx is a figure having a human head and the body of a lion. It is carved partly out of the solid rock of a chain of hills, and rises forty feet above them. It is fifty-one feet from the belly to the top of the head, and the body is one hundred and ten feet long. It was made thousands of years ago.

The rich and those who hold office wear white or red turbans, and dress in black cloth coats and white pantaloons. The poor wear heavy turbans, and blue cotton blouses; they go with bare feet and legs. All carry a camel's-wool cloak for a bed at night. Many of the children wear nothing. Women are never seen in company with men on the streets.

The Barbary States, as they are called, are Morocco, Algeria, Tunis, and Tripoli. The Atlas Mountains divide the country. To the south is the land of dates.

Soudan is a large country lying south of the Sahara. It has a rich soil, and duhrra (dur'-rah), a kind of grain, and many fruits come forward quite rapidly. Numerous varieties of water-melon grow with little or no cultivation.

The melons often furnish all the water used by a family; some of these varieties have hard shells, and, after ripening, the inside turns to almost pure water. Cisterns of clay are built above ground and used for storing water during the dry season.

Eastern and Western Africa have no countries of great importance. Some of the tribes of these sections have large herds of cattle, and some till the soil in a rude way, and show skill in making a few things.

Sierra Leone (si-er-rah le-o'-ne) is a British colony for slaves taken from slave ships. Liberia is a republic founded for persons who were once slaves in the United States. Great Britain has colonies in South Africa. Cape Town is the chief sea-port.

Congo Free State is a vast region recently opened to the trade of all nations. It is thickly peopled by dark tribes, governed by chiefs.

A WATER-BEARER ON THE NILE.

Madagascar is one of the largest islands in the world. It has several millions of people, who have been converted to Christianity. The forest region near the coast is very unhealthy for Europeans, and few have crossed the island. The country is a kingdom.

OCEANIA.*

City of Sydney. Emu. Kangaroo. Duckbill. Sheep Washing.

READING LESSON XLV.

AUSTRALIA—PLANTS, ANIMALS, AND PEOPLE.

AUSTRALIA is nearly as large as the United States without Alaska. It is the largest island in the world, and is often called a continent. There are few inlets along the coast, and good harbors are scarce. The central part of the island is a great, barren plain, or low table-land, covered with sand and rocks. The principal mountain chain is the Australian Alps, or Blue Mountains, which are noted for their grandeur and wildness.

Australia has no great navigable rivers. Many of its rivers flow toward the interior, and are lost in the desert sands. Along the south coast, no permanent stream is found for a distance of 1,500 miles.

The northern part has a dry, tropical climate, and is subject to winds called monsoons. From the barren plains in the interior, come hot winds, which fill the air with fine dust, and raise the thermometer to one hundred and twenty degrees in the shade.

In the southeast, droughts sometimes prevail so long that streams are dried up and vegetation is killed. When the rainy season comes on, the country is often flooded. The eastern part is the best watered and most fertile. There are also fine lands on the western coast.

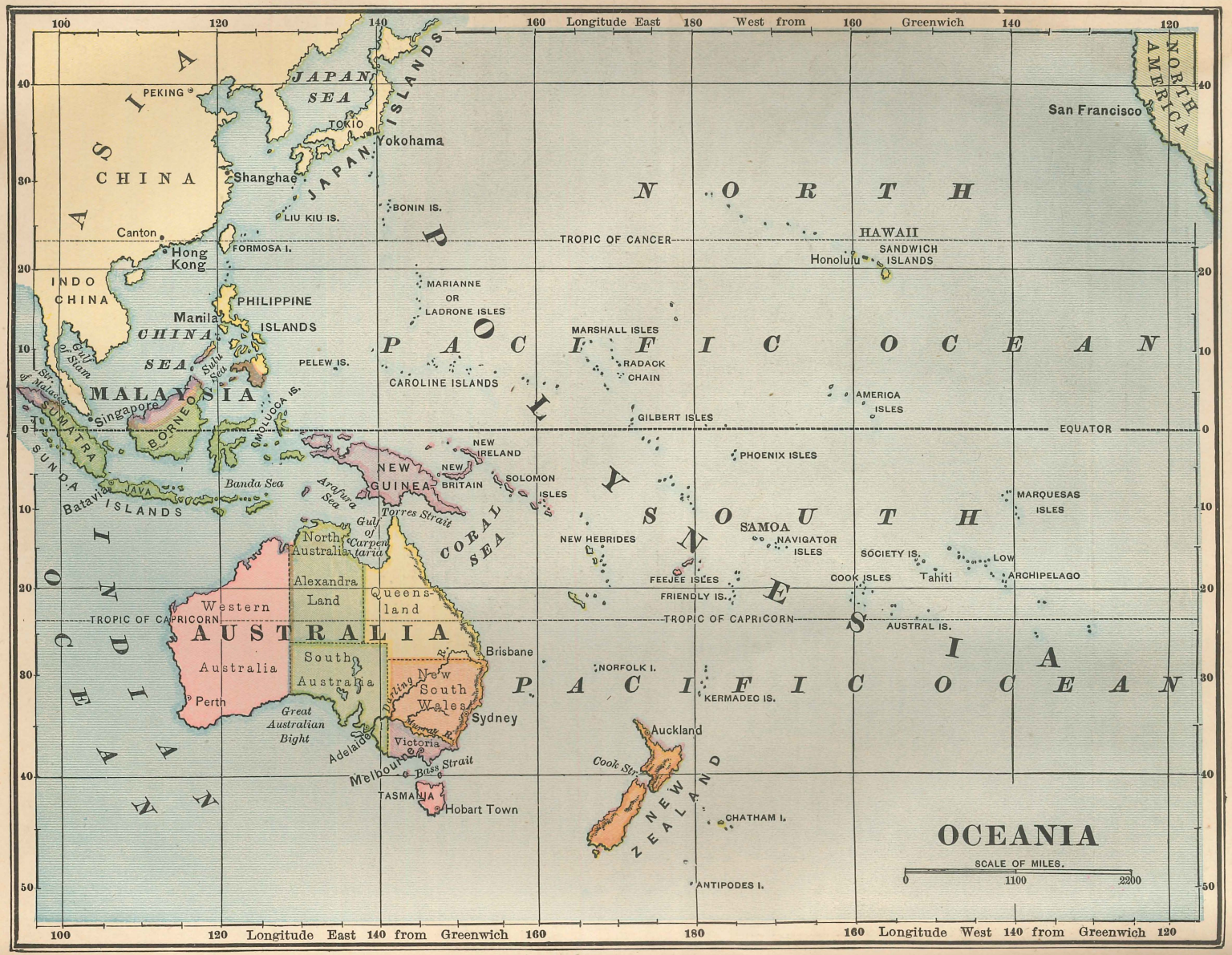
Sheep farming is very profitable on the mountains and plains. No part of the world produces so much wool.

The plants and animals of Australia are very strange. The trees do not form thick forests, but are scattered as in a park. Some of them have evergreen leaves whose edges turn toward the sun, and others grow without any leaves at all. Fern trees grow to the height of twenty feet, and one kind of gum tree is said to reach a height of five hundred feet. Nettles are sometimes as tall as our oaks, or forty feet high.

There are more than forty kinds of animals that carry their young in pouches; of these, the kangaroo is the largest. An animal called a duckbill has fur like a beaver, and a bill like a duck. The emu is a large bird, resembling the ostrich. The lyre bird has a tail shaped like the musical instrument called a lyre. The birds of Australia are not sweet singers.

The natives of the country have neither houses

* See Map Studies on page 63.


100
120
140
160
Longitude East
180
West from
160
Greenwich
140
120
ASIA
JAPAN SEA
PEKING
TOKIO
Yokohama
JAPAN ISLANDS
CHINA
Shanghae
BONIN IS.
LIU KIU IS.
Canton
Hong Kong
FORMOSA I.
TROPIC OF CANCER
HAWAII
SANDWICH ISLANDS
Honolulu
NORTH AMERICA
San Francisco
INDO CHINA
PHILIPPINE ISLANDS
Manila
CHINA SEA
MARIANNE OR LADRONE ISLES
MARSHALL ISLES
RADACK CHAIN
PELEW IS.
CAROLINE ISLANDS
PACIFIC OCEAN
MALAYSIA
Singapore
AMERICA ISLES
GILBERT ISLES
EQUATOR
SUMATRA
BORNEO
MOLUCCA IS.
NEW IRELAND
NEW BRITAIN
NEW GUINEA
SOLOMON ISLES
PHOENIX ISLES
MARQUESAS ISLES
Banda Sea
Arafura Sea
Batavia
JAVA
SUNDA ISLANDS
Torres Strait
CORAL SEA
NEW HEBRIDES
SAMOA
NAVIGATOR ISLES
SOCIETY IS.
LOW ARCHIPELAGO
FEEJEE ISLES
COOK ISLES
Tahiti
FRIENDLY IS.
North Australian Gulf of Carpentaria
Alexandra Land
Queensland
Western Australia
TROPIC OF CAPRICORN
AUSTRALIA
AUSTRAL IS.
South Australia
Brisbane
NORFOLK I.
Darling R.
New South Wales
Sydney
KERMADEC IS.
Perth
Great Australian Bight
Murray R.
Auckland
Victoria
Adelaide
Melbourne
Bass Strait
Cook Str.
TASMANIA
Hobart Town
NEW ZEALAND
CHATHAM I.
OCEANIA
SCALE OF MILES.
0
1100
2200
ANTIPODES I.
100
120
Longitude East
140
from Greenwich
160
180
160
Longitude West
140
from Greenwich
120

Map Studies.— Copy the outline of Australia. Is the coast regular or irregular?

Copy its mountains. Where are they located?

Copy its chief rivers.

Copy boundaries of countries, and print names.

In what zones is Australia? Is it a warm or a cold country? Which part of the island receives the least rain?

Are there many or few islands seen on this map? Omitting Australia, write the names of the six largest islands. Which of the groups of islands has the coolest climate? May we expect to find tropical vegetation on most of these islands? If we were at New Zealand, which way would our shadows fall at noon? If we were on the island of Borneo, which way would our shadows fall at noon? Which are the winter months in New Zealand?

AUSTRALIAN SCENES AND INDUSTRIES.

Several very profitable lessons may be based on this picture. The entrance to the harbor of Sydney is seen above, and just below are street views in Melbourne and Sydney, the chief cities. Other portions of the engraving need no explanation.

nor tents, but wander about, almost naked, in search of food. They are brown or black in color, but are neither Africans nor Malays. Some tribes eat human flesh, and others are kind and gentle. They are very expert in throwing a weapon called a boomerang.

The entire island belongs to England, and several large colonies have been established. It has the richest gold mines in the world, and extensive mines of copper and tin. Sydney and Melbourne are large and fine cities, with several lines of steamers running to the United States and England.

READING LESSON XLVI.

THE ISLAND WORLD.

NEW ZEALAND is a British colony. The soil is very fertile, and the climate is one of the most healthful and pleasant in the world. Fresh winds are always blowing from the ocean, and showers are abundant. The evergreen forests on the mountains yield valuable timber. New Zealand flax grows eighteen or twenty feet high, and a gum used for making varnish is dug from the earth. Mining and stock-raising are the chief occupations.

Thousands and thousands of islands dot the Pacific Ocean. There are many groups. Most of the islands are built up by little creatures called coral polyps.

Myriads of these polyps live in the warm oceans; they have lime in their bodies instead of bones, and they leave this lime behind when they die. They keep growing and dying, year after year, and as they live in societies or neighborhoods in the sea, the lime from their dead bodies is piled higher and higher, until, after a long time, the top of the great coral rock is near the surface of the water.

The waves then break the coral; sand and sea-weed lodge; birds begin to light there, and seeds are brought by the waves. The seeds spring up; leaves fall; a rich soil is formed, at last; and we have a beautiful island, fit for the home of man. Coral reefs are built in the same way. The Barrier Reef extends for a thousand miles along the north-east coast of Australia, and the sea waves break on it with the voice of thunder.

One chief of a group of islands, called the Maldives, is said to rule over twelve thousand coral islands.

The largest islands are near the coast of Asia. Java is ruled by the Dutch. It is one of the great coffee countries of the world. Rice is the chief food of the people, and it is cultivated with great care. Every plant is set out by hand, and cut with a knife when harvested.

On some of the mountain slopes we may see rice fields all the way up. They are watered by springs. At the foot of the mountain the rice is ripe; as we ascend, it is in all stages of growth, until we get to the top, where it is just set out. Planting rice above, and harvesting it below—is it not strange?

Borneo is noted for its gold and diamonds; Sumatra, Celebes, the Phillippines, and Spice Islands, for cloves, nutmegs, and spices; New Guinea, for pearls.

The inhabitants of most of these islands are Malays and negroes. They are fine swimmers and skillful boatmen. The bread-fruit is eaten.

LIFE IN THE EAST INDIES.

The bread-fruit grows on a tree which reaches a height of forty or fifty feet. It sometimes weighs four pounds or more. The fruit is generally cut into three or four slices, and baked in an oven. It resembles wheat bread. The people of these islands sometimes join and dig a large pit, in which several hundred bread-fruits are baked at once, on heated stones. Is that not a large baking?

The Sandwich or Hawaiian Islands form a Republic. The natives have been converted to Christianity. Sugar is the chief product.

THE SEA.

READING LESSON XLVII.

WONDERS OF THE DEEP.

WE have learned much about the land, and are now ready for a voyage upon the sea, whose waters extend from pole to pole, and cover three-fourths of the earth's surface. The sea is so very, very large that the oldest sailor has seen but a small part of it, and no human eye has beheld half of its many wonders. The ships of all nations sail to and fro upon it, and it has been called the "Highway of the World."

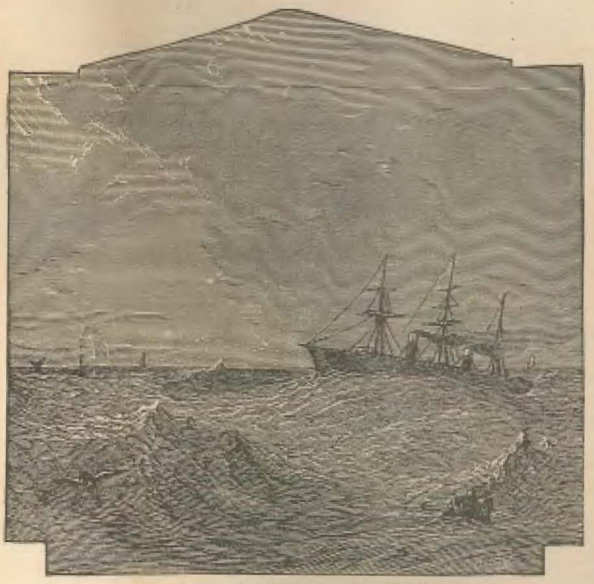
The water is salt in all parts of the sea, and every ship carries a supply of fresh water in casks or tanks, to quench the thirst of its passengers and crew. How strange it is that seamen who are cast away in a small boat, sometimes die of thirst, with water all around them!

The sea is never at rest. The winds form waves

which are seen far out from land, and along every coast. Great waves, or swells, called tides, move across the ocean, following the moon in its course. In some places, like the Bay of Fundy, the tide rises sixty or seventy feet.

There are streams or rivers in the sea, longer, broader, and deeper than any on the land. We have already learned about the Gulf Stream, which warms the western coast of Europe. That great ocean river, where it leaves the Gulf of Mexico, is fifty miles wide, and three thousand feet deep.

There is a cold river, or current, flowing from the Arctic Ocean, which floats huge masses of ice, called icebergs, far to the south, across the track of our ships engaged in commerce with Europe. The sailor must keep a sharp watch, or his ship may be dashed against one of these floating ice mountains.



A STEAMER CROSSING THE OCEAN.

A glass of sea-water is as clear as crystal, but when we look at the sea from a distance it appears blue, green, or some other color. Along the coast, and in coral seas, the waters are green. In most tropical seas, they are dark blue. In parts of the Indian Ocean, they are black. In some places the bottom of the sea, and in others myriads of plants and tiny creatures, give their color to the water. So, parts of the sea are red, brown, white, or yellow. Do you think of any sea whose name shows the hue or color of its water?

If we stand on the deck of a ship, as she plows through the waves at night, we may see a strange sight. In the wake, or furrow, of the ship, is a long belt of light; the waves are tipped with flames; the spray at the bow glistens like stars. This light is caused by creatures so small that they can not be seen with the naked eye; they shine like the fire-flies, or the glow-worms, on land.

Sea weeds grow in all the oceans. Some of them are rooted at the bottom, and other kinds float, and bear their seeds on the surface of the water. Many sea plants have beautiful forms; some are very small and delicate, and others are seven hundred feet in length, with stems like cords. Most land plants are green, but the vegetation of the sea is brown, yellow, pink, purple, orange, violet, and every other hue.

There are immense tracts in the sea filled with floating plants, so close together that they almost hide the water. One of these, in the Atlantic, is called the Sargasso Sea. The plants seem to have nothing to hold them in that part of the ocean, but they remain just where they were when Columbus sailed there, four hundred years ago.

Will you ask your teacher to trace the Gulf Stream for you? Ask her to point out the track of ships sailing to Europe. Write the names of all the seas which seem to take their names from the color of the water.

READING LESSON XLVIII.

HARVESTS OF THE DEEP.

THE sea is thronged with living creatures. The largest animals have their homes in its waters, and its tiny inhabitants outnumber the sands on the shore. Its coral groves are as beautiful as our flower gardens; its finny tribes and its shellfish are as wonderful as the animals that live on the solid earth.

The bottom of the sea is much like the surface of the land. If the waters were dried up, so that we could travel over it, we should see hills, val-

leys, vast plains, rocky cliffs, and many high, steep mountains.

In many places, the waters of the ocean are so deep that they shut out all light of the sun, moon, and stars, so that the bottom is darker than the darkest midnight.

Though fish and other living creatures have been taken from great depths in the ocean, animal life is known to be most abundant near the surface, where the sun's light penetrates and its heat is felt. The most beautifully painted shells, the pearl oyster, and the coral polyp are found on the clearest bottoms, in the purest water, and not beyond the reach of the strong light of the sun.

The bottom of the sea is not disturbed by the waves above, and the tempest's power is not felt in those awful depths. There it is always calm.

BATHING ON THE SEA-COAST.

The sea is the home of the whale, which is valued for its whalebone, oil, and spermaceti; of the seal and sea-lion, which are hunted for their furs; of the walrus, narwhal, and sea-unicorn, whose tusks furnish ivory; of the oyster, the herring, the mackerel, the shad, the salmon, and the codfish, which are used as food all over the world. We go to the sea for sponges, corals, amber, pearls, and tortoise-shell.

Thousands and thousands of men are employed in gathering the harvests of the deep. Some are searching for whales, in the Arctic seas; some are hunting seals, on cold, desolate islands and coasts, far to the north or south.

The Grand Banks of Newfoundland, the Northwest coast of America, the cool waters off the coasts of China and Japan, are white with the sails of fishing smacks. In the Indian Ocean, men are diving for sponges and pearls, or fishing for red coral. On the Bahamas, they are catching the huge green turtle for soup.

READING LESSON XLIX.

THE CLOUDS AND THE RAIN.

WITHOUT the sea, no rain would fall upon the earth; no springs would gush from the hillsides; no brooks or rivers flow along the valleys; the land would bear neither grass, flowers, nor trees; no animal could live; the earth itself would be a desert, with neither clouds nor rainbows in the sky.

Let us see if we can understand this. We know that nearly all the rivers flow into the sea; why does it not get full and run over the land? What becomes of the water which the rivers pour into it?

When we place a kettle of water over a hot fire, the steam, or vapor, soon begins to rise; after a time the water has boiled away—the kettle is dry. Where is the water? The heat caused the little drops, or atoms, of water to rise in the form of vapor. The atoms of water kept going up into the air, all the time, until there was not a drop left in the kettle. It is now in the air.

Heat forced the water to leave the kettle and go up into the air; it dried up the water, or, as wise men say, evaporated it. That is just the way heat serves water every time. It does not make a bit of difference whether the heat comes from a small fire in the stove or from the great fire above, called the sun.

We place water out of doors in a shallow pan;

or, the rain falls and forms puddles. The pan and the puddle are soon dry. The heat of the sun has evaporated the water, and the air holds it. Now, the sun shines upon every part of the sea. Its heat causes the tiny atoms of water to rise into the air, just as they did from the kettle, the pan, and the puddle.

The sea is so large, and the heat of the sun is so great, that the water is evaporated, or forced up into the air, just as fast as it is poured into the oceans by all the rivers in the world. So, we know why the sea never runs over, and where its waters go.

The air is always in motion, and the moisture which it receives from the sea goes with it over the land, wherever it is carried by the winds. In the clearest day, the air all about us is filled with tiny drops of water, which have come all the way from the ocean. We can not see them any more than we can see the air itself.

We placed a tumbler of cold water on the desk. In a short time the outside of the tumbler was covered with drops like dew. From whence did these drops come? They came from the clear air. The water cooled the tumbler, and the tumbler cooled the air all about it; and thousands of tiny drops, which the air held, came together and formed the larger drops which we saw so plainly.

By cooling the air we made it give up its moisture. We caused a tiny shower to fall on the surface of the tumbler. Cool air can not hold so much water as warm air; let us remember this, and try to find out how the rain is made to fall upon the earth.

We know that the cold is felt, more and more, as we go up the sides of mountains. The higher we rise above the sea, the cooler the air becomes. Now, let us think of the air as passing from the sea to the land, carrying with it the moisture it has taken from the water.

As the air, or wind, moves over the land, on its long journey across a continent, it rises high above the level of the sea, because the land itself slopes upward. When the wind comes to hills or mountains, it rises up their sides, higher and higher, to their very tops, which are often covered with snow; the mountains are great coolers.

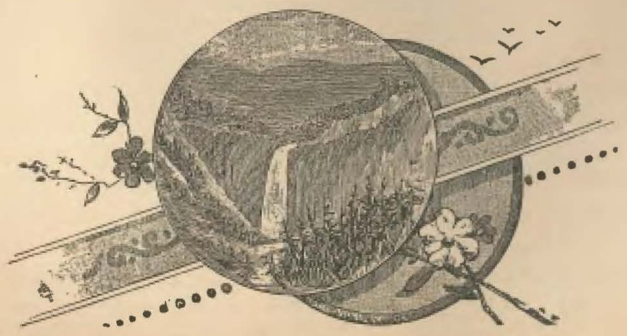
Where is the moisture which the air held when it started from the sea? The air was cooled as it went on its way over the high land, over the hills, over the mountains, because it was made to rise into the cold above.

It had to drop its burden of water. Clouds were formed, and showers fell upon the fields, but more among the hills and mountains. The water flowed down the slopes, or found its way into the earth to form springs, which are the beginnings of rivers that flow into the sea.

How strange it is that the waters of the sea are made to rise into the air by the sun's heat; that they are carried over the land on the wings of the wind; that cold causes them to fall; that the rivers take them back to the sea.

When you are older you will learn more about these things.

NOTE.—The teacher should place a tumbler of cold water where pupils can see that small drops are formed on its surface.



DOMINIO
BRITISH COLUMBIA
PACIFIC OCEAN
WASHINGTON
OREGON
CALIFORNIA
NEVADA
UTAH
ARIZONA
MONTANA
WYOMING
COLORADO
NEW MEXICO
NORTH DAKOTA
SOUTH DAKOTA
NEBRASK
KANS
TEXA
MEXICO
LOWER CALIFORNIA
GULF OF CALIFORNIA
Victoria
Olympia
Tacoma
Kalama
Portland
Salem
Mount Hood
Walla Walla
Baker City
Jacksonville
Mount Shasta
Cape Mendocino
Marysville
Sacramento
Oakland
San Francisco
San Jose
Virginia City
Carson City
Eureka
Pioche
Mount Whitney
Los Angeles
San Diego
Helena
Ft. Benton
Great Falls
Missouri River
Ft. Buford
Bismarck
Miles City
Livingstone
Yellowstone
Virginia City
Idaho City
Boise City
Snake or Lewis River
Salmon River
Yellowstone Lake
YELLOWSTONE NATIONAL PARK
Deadwood
BLACK HILLS
Rapid City
Pierre
Aberdeen
Chamberlain
Fargo
South Pass City
Green River City
Ogden
Salt Lake City
Provo
GREAT SALT LAKE
Humboldt River
Sevier Lake
Cheyenne
Central City
Denver
Leadville
Gunnison
Pike's Peak
Pueblo
Silverton
Trinidad
Santa Fe
Las Vegas
Albuquerque
The Needles
Prescott
Phoenix
Globe City
Yuma
Tucson
Deming
El Paso
Colorado River
Gila River
Rio Grande
Rio Pecos
Rio Conchos
Canadian River
Brazos River
Colorado River
Nueces River
San Juan R.
Niobrara River
Platte River
South Platte
Republican Fork
Smoky Hill Fork
Arkansas
Cimarron
Sherman
Waco
Austin
San Antonio
Laredo
LLANO ESTACADO
Lincol
Omaha
Sacramento River
Sacramento River
Yosemite Valley
Sierra Nevada
Coast Range
Cape Prince of Wales
Yukon River
Arctic Circle
British Rocky Mountains
Possessions
Sitka
Continuation of Alaska Peninsula
Behring Sea
Aleutian Isl.
Scale of Miles.
0 100 200 300 400
10,000 Square Miles.
127° 122° 117° 112° 107° 102°
45 40 35 30 25°

92°
87°
82°
77°
72°
67°
Longitude West from Greenwich.
TOBA
N
Winnipeg
Lake of the Woods
Rainy Lake
St. Vincent
Red Lake
Lake Itasca
Moorhead
Fergus Falls
Brainerd
St. Cloud
Ortonville
Stillwater
Minneapolis
St. Paul
Red Wing
L. Pepin
Minnesota
L. Minnetonka
Faribault
Mankato
Winona
Albert Lea
MINNESOTA
ONTARIO
OF
CANADA
QUEBEC
Saguenay River
BRUNSWICK
NEW
St. John R.
Quebec
Montreal
Ottawa
Ottawa River
Kingston
Toronto
LAKE SUPERIOR
Duluth
Ashland
Marquette
Strs. of Macinac
GEORGIAN BAY
LAKE HURON
LAKE MICHIGAN
LAKE ONTARIO
LAKE ERIE
WISCONSIN
Wisconsin River
Green Bay
Oshkosh
Milwaukee
Madison
MICHIGAN
Bay City
Grand Haven
Grand Rapids
Lansing
Detroit
Niagara Falls
Buffalo
Rochester
Albany
NEW YORK
St. Lawrence River
ADIRONDACK MTS.
Montpelier
VERMONT
GREEN MTS.
Connecticut R.
NEW HAMPSHIRE
WHITE MTS.
Concord
MAINE
Moosehead Lake
Kennebec R.
Fredericton
Bangor
Augusta
Penobscot R. & Bay
Portland
Lowell
Boston
Cape Cod
MASSACHUSETTS
Springfield
Hartford
CONNECTICUT
New Haven
RHODE I.
Providence
Newport
Long I. Sd.
Hudson R.
New York
Brooklyn
Jersey City
NEW JERSEY
Trenton
Erie
PENNSYLVANIA
Harrisburg
Philadelphia
Camden
Dover
DELAWARE
Annapolis
MARYLAND
Baltimore
Wheeling
Pittsburgh
Cleveland
Youngs T.
Toledo
Fort Wayne
OHIO
Columbus
Cincinnati
Yankton
Sioux Falls
Des Moines R.
Sioux City
IOWA
Dubuque
Davenport
Des Moines
Council Bluffs
Burlington
Keokuk
Nebraska City
MISSOURI
Chicago
Rock I'd
Illinois River
Peoria
Bloomington
Kankakee
ILLINOIS
INDIANA
Indianapolis
White R.
Terre Haute
Springfield
Alton
St. Louis
Wabash River
Vincennes
Covington
Newport
Frankfort
Louisville
Ohio
Evansville
KENTUCKY
Cumberland R.
Paducah
Cairo
St. Joseph
Quincy
Hannibal
Atchison
Kansas R.
Topeka
Lawrence
Kansas City
Jefferson City
Wichita
Joplin
OZARK MTS.
White River
MISSISSIPPI RIVER
Vinita
Tahlequah
Guthrie
River
WEST VIRGINIA
Charleston
Potomac
WASHINGTON
BLUE RIDGE
VIRGINIA
Richmond
James R.
Cape Charles
Cape Henry
Norfolk
Danville
Albemarle Sound
Cape Hatteras
Pamlico Sound
Raleigh
NORTH CAROLINA
Charlotte
Wilmington
APPALACHIAN MTS.
CUMBERLAND MOUNTAINS
ALLEGHANY MTS.
DELAWARE BAY
Nashville
TENNESSEE
Chattanooga
Memphis
Tennessee R.
SOUTH CAROLINA
Columbia
Santee R.
Augusta
Charleston
Savannah River
Savannah
Altamaha River
Atlanta
Ocmulgee
Oconee River
Macon
GEORGIA
Flint River
Chattahoochee River
Brunswick
Little Rock
Hot Springs
Pine Bluff
ARKANSAS
Red River
Washita
Helena
Corinth
MISSISSIPPI
Tombigbee River
Birmingham
Alabama
ALABAMA
Montgomery
Jackson
Pearl River
Natchez
Vicksburg
LOUISIANA
Sabine River
Baton Rouge
New Orleans
Mobile
Pensacola
FLORIDA
Tallahassee
Jacksonville
St. Augustine
St. John's River
Cedar Key
Cape Canaveral
THE EVERGLADES
Cape Sable
Key West
FLORIDA KEYS
BAHAMA ISLANDS
Dallas
Jefferson
Marshall
Shreveport
Trinity River
Neches River
Houston
Galveston
Galveston Island
Corpus Christi
Brownsville
GULF of MEXICO
ATLANTIC OCEAN
40°
35°
30°
25°
Longitude West from Washington
20°
15°
10°
5°
0°

THE UNITED STATES.

What kind of grain are the men harvesting? Are the machines self-binders? Is cotton gathered by machinery? Is there any reason why cotton should not be cut by machinery the same as wheat or oats?

How many vessels can be seen on the right? What kind of timber is the man chopping? How is the heavy iron shaft supported while it is being heated? Do you think a bellows is used to blow the fire?

Picture Lesson.—Here we see a cotton field, with the pickers as busy as they can be. In the distance is the press where the cotton is baled, and still farther away is a river steamer waiting to take it to market.

On the left, is a harvest scene on one of our western prairies. On the right, manufactories send up their clouds of smoke; a ship, representing commerce, lies at the wharf; and a man, with lusty strokes, is doing what he can in the way of lumbering. In the center men are forging the shaft for an ocean steamer. Above all, is an evergreen plant. What does this mean?

Map Studies.—Draw the outline of the United States, by tracing or by cardboard form, and copy the names of countries and great divisions of water forming the boundaries.

Copy the mountain ranges. In what part of the United States is each range situated? In what directions do the ranges extend? Which portion of the country is most mountainous? Is any part without mountains?

Copy the Mississippi, its largest eastern, and three largest western, branches. Are there many or few rivers in the United States? Which part of the country has the largest rivers? Which coast has the least number of rivers? Where do most of the rivers rise? Copy the largest rivers flowing from the eastern slope of the Appalachian Mountains. Copy the principal rivers flowing from the western slope of the Rocky Mountains. Which river, with its branches, drains the most land?

Are there few or many states and territories in the United States? Write a list of the names of the states bordering on the Atlantic. On the Pacific. On the Gulf of Mexico. On the Great Lakes. Of states lying on the east bank of the Mississippi. West bank. Write the names of states and territories crossed by the Rocky Mountains. By the Cascade and Sierra Nevada. Of states crossed by the Appalachian. Write the names of the five largest states. The five smallest.

Which states have the best advantages for lake commerce? For river commerce? For ocean commerce? Do the states on the Atlantic or on the Pacific coast have the best advantages for ocean commerce? In what sections shall we be most likely to find people engaged in mining? In grain raising? In fishing? Which portion of the country is most thickly settled? Why is this?

In what zone is the United States? (See Map of North America.) Is any part near the Torrid Zone? Which are the warm states? Point to the cool belt of states. To those neither very hot nor very cold. In which belt is our state?

NOTE.—The outline of the United States is now drawn, and the mountain ranges and a few rivers are copied.

Have the pupils draw and complete New England on the days when that section is the subject of the reading lessons; then take the

Middle States, and so on, until all the sections are drawn. If done in this way, the map work will not become burdensome. The boundaries of states, the largest rivers, the mountains, etc., should be copied, and the names printed on the map. Capitals and chief cities should be located.

Map questions on the several sections are not appended. Teachers should ask such questions as they deem proper.

Blackboard sketching should be encouraged. Have pupils draw a coast line, say from Cape Hatteras to Cape Sable, and then build on North Carolina, South Carolina, and Florida; or, sketch the Ohio, and the states on both sides; the Mississippi; the Gulf Coast, etc. This is one of the most profitable exercises that can be introduced.

READING LESSON L.

NAME AND HISTORY.

OUR country is called the United States, because it is made up of many states united under one government. As it forms a part of North America, it is often spoken of as the United States of America.

For a long time after Columbus discovered the New World there were no settlements, or colonies, in what is now the United States. In 1607, the English settled at Jamestown, in Virginia; and in 1620, the Pilgrim Fathers made a home at Plymouth, Massachusetts. Other settlements were made, until, at last, there were thirteen colonies, all under the English King.

These colonies were not pleased with English rule, and, in 1776, they declared themselves independent. Then followed a war of seven years, called the Revolution, which freed the colonies from the mother country, as England was called.

The people then formed a new government, and made laws to suit themselves. We are living under the government which they formed, and it is a little more than a hundred years old.

The first settlements were made near the Atlantic coast. Many people have come from all parts of the world to find homes in our land, and the people of the older states have joined with them in settling this great country.

They have gone farther and farther toward the setting sun, cutting down forests, plowing up prairies, making farms, building houses, cities, and railways, crossing rivers and mountains, until they have reached the Pacific Ocean, and we now have more than sixty millions of people, forty-five states, and five territories, which we will study in five groups or sections.

Washington, the capital of the United States, has been the seat of government since the year 1800. It is built on the east bank of the Potomac River, on a tract of land called the District of Columbia. The site of the city was chosen by President Washington, who, with Jefferson, prepared its plan.

It is a city of broad streets, of grand avenues, and of numerous and beautiful parks and public gardens. It has many fine buildings: among these are the Capitol, where Congress meets to make the laws; the Treasury Department; the White House, where the President resides; and the Patent Office.

The Washington Monument is a shaft 70 feet square at the base, and 555 feet high, erected by the people of the country to its greatest citizen.

THE NEW ENGLAND STATES.

READING LESSON LI.

CLIMATE, SURFACE, ETC.

THE six New England States are Maine, New Hampshire, Vermont, Massachusetts, Connecticut, and Rhode Island. Taken together, they are not so large as Kansas; but they have many more people, and they form a very important group of states.

The winter climate of New England is very cold, and there is much snow in the northern part. The lakes and streams freeze to a depth of two or three feet, and large quantities of ice are cut and stored in buildings called ice-houses. When summer comes, shiploads of ice are sent to southern cities, and to other parts of the world.

During the winter season, thousands of men are busy in the great forests of Northern Maine and New Hampshire. Pine, hemlock, and other trees are cut and drawn to places near the waters' edge. When the spring freshets come, rafts are floated down the streams to the towns near the coast. Much lumber is used for shipbuilding, along the coast of Maine.

There are no prairies in this section. Most of New England is hilly, and some portions of it are mountainous. The Green Mountains of Massa-

This picture gives us a good idea of New England life, as it is and was. In the lower left hand corner is a company of Puritans on their way to church. The pines in the foreground seem to say, "Keep their memory green."

Above is a maple grove, where sugar is being made.

In the foreground, on the right, are sheep and cattle. Beyond, at the foot of the hill, is a tunnel, through which the train will pass on its way to the city. On the hill is a school-house where the children are taught. Farther away we see factories, a vessel, the spire of a church and the dome of some public building. Mountains rise in the background.

chusetts and Vermont are not very high, and they are crowned with forests, or clothed with green pastures. The White Mountains of New Hampshire are noted for grand scenery. One of the highest peaks is Mount Washington. Thousands of people visit this region during the heat of summer. They come in swarms from crowded cities.

The farms of this section are divided into small fields which are often fenced with stone walls. A ten-acre lot seems very large to a New England lad. In many places we may see stone heaps, which have been piled here and there, to get the stones out of the way of the plow or scythe. How can anything grow on these cold, rocky hills?

The New England farmer works very hard, and he tills the soil so well that he gets quite good crops of corn, rye, oats, vegetables, and fruits, but he can not supply food for all the people. They must depend on the grain fields of the West for the most of their wheat bread.

The soil is much better for grass than grain, and dairying is one of the chief occupations. Tons and tons of golden butter are sent from the farms to Boston and other large cities. Vermont is noted for its sheep, horses, and cattle.

But the hills of New England produce something besides grain and live stock. The granite of New Hampshire, the marble and slate of Vermont, and the sandstone of Connecticut must not be forgotten while we use slates in school or whetstones on the farm.

Queries.—Why called New England? Do you think your slate came from a New England quarry?

READING LESSON LII.

INDUSTRIES, ETC.

THE Connecticut, the Merrimac, the Kennebec, and the Penobscot are the most noted rivers of New England. There are many rapid streams, on whose banks stand manufacturing cities and pleasant factory villages. Manufacturing is the chief business of the people. The Merrimac is said to drive more machinery than any other river in the world.

Along the streams are cotton and woolen factories, with thousands of looms and machine shops, with hammers, forges, and lathes. Massachusetts, Connecticut, and Rhode Island take the lead in manufacturing. Besides cotton and woolen goods, the thrifty sons and daughters of New England make boots and shoes, furniture, fire-arms, steam engines, clocks, and watches, and almost everything else of which we can think.

A cotton factory is an interesting place to visit. The cotton comes to the factory in large bunches, or bales. In the spinning room, it goes through the spinning-jenny, and is made into threads. In the weaving room, there are long rows of looms in which the cloth is woven. The spindles turn, the looms move, the shuttles fly back and forth to form the web, without a hand to touch them, when once set in motion. When a thread breaks, the machinery stops of itself until it is mended.

Girls go from all parts of New England to work in the great factories. We may sometimes see a thousand in one mill. Men and children are also employed. Standing near a large factory at noon, we may see hundreds of girls swarming out to dinner.

The manufacturers of New England have to buy cotton, wool, hides, and many other things. They must sell what they make to pay for what they buy; this gives rise to commerce. Ships and cars are loaded with goods and sent off to be sold; they return with flour from the West, cotton from the South, and hides from South America.

As New England borders on the sea, and has many good harbors, we need not think it strange that her hardy sons should seek their fortunes on the water. They go out on the coasters which ply from port to port, on the steamers and merchantmen to foreign lands, on whalers to arctic seas, and on fishing smacks to the Banks of Newfoundland.

Boston is the largest city, and the great commercial center of New England. The people are highly educated, and there are many newspapers, publishing houses, fine libraries, and public schools.

Lowell is on the Merrimac. Every year its factories make cotton cloth enough to reach three times round the world.

Fall River is famed for its prints, or printed cloths, and it runs more spindles than any other city in the United States.

Lynn is noted for its manufacture of ladies' boots and shoes. Nearly all the work is done by machinery, managed by thousands of hands.

Queries.—Why do manufactories stand on rapid streams? What do we mean by saying that people are "highly educated?" How many yards of cloth would it take to reach three times round the world?

THE MIDDLE ATLANTIC STATES.

READING LESSON LIII.

CLIMATE, PRODUCTIONS, ETC.

THE Middle Atlantic States are New York, Pennsylvania, New Jersey, Delaware, Maryland, Virginia, and West Virginia.

In the northern part of this group of states the climate is like that of New England. As we go south it becomes milder, and snow is seldom seen in the southern part of Virginia.

MINING.

What are the men seen in the picture doing? Do you think they are at work in a coal or in an iron mine? Why do you think so? How are they able to move about in the dark of the mine? What is being done in the buildings? What do you think the cars are loaded with? What is used to melt iron? Can you see the entrance to a mine?

Grain, hay, vegetables, and orchard fruits are grown in all parts. Pennsylvania and New York are noted for their cattle and sheep; Maryland and Virginia, for their tobacco.

Along the Atlantic Ocean, the land is level. Some distance from the sea-shore, we find hills, and farther back are mountains.

If we travel over New Jersey, Delaware, Eastern Maryland, and Southeastern Virginia, we shall

see hundreds and hundreds of acres of garden vegetables, strawberries, raspberries, melons, cucumbers, and squashes, besides immense orchards of peaches and other fruits. New York, Philadelphia, Baltimore, and Washington are supplied from these gardens and orchards.

Large quantities of fruit are canned and shipped to the West and North. Trains of cars and steamers run every day in strawberry time and peach time, carrying nothing but these fruits. From all this we may see that market gardening and fruit raising receive great attention.

OYSTER-FISHING ON THE CHESAPEAKE.

In the shoal waters along the coast, and in Chesapeake Bay, oysters are found in great abundance. Millions of bushels are canned. Baltimore oysters are among the best in the world.

Let us leave this coast belt and pass to the mountain region. The Appalachian Mountains have many ranges running in the same direction; the whole forming a belt from fifty to two hundred miles in width.

From the Adirondacks, in New York, through Pennsylvania and the Virginias, this region is noted for its wild and beautiful scenery. There are many silvery cascades, tumbling over ledges, and, in Virginia, many caves, and several natural rock bridges which span streams whose waters rush along their beds hundreds of feet below.

The Potomac at Harper's Ferry, the Delaware at Delaware Gap, the Hudson at West Point, and other great rivers, have cut their way through the mountain ridges, forming huge gaps, or openings, in the rocks.

The mountains contain immense beds of coal and iron. Pennsylvania and West Virginia are great coal and iron states. Here, as we may guess, mining is the chief business.

The passage-ways in some of the coal mines are miles in length. Thousands of people work underground all their lives. Near the openings to the mines we often see many rude dwellings, where the families of the miners have their homes.

The iron, as it comes from the earth, is melted in tall furnaces, and it is then drawn off into channels made in the sand, where it cools in bars about two feet long. These bars are called pig-iron.

The iron and coal would be of little value without some means of getting them out of the mountains. The iron horse has found his way here, and we may listen to his hard breathing as he draws his loaded wagons along the roads leading to the great cities, East and West, where manufacturing is carried on by machinery.

Queries.—Do we get canned fruit or oysters from the Middle Atlantic States? Would you like to work in the mines? Do you think the people of these states plant oysters? Where and how? What is the "iron horse?"

READING LESSON LIV.

INDUSTRIES, COMMERCE, ETC.

WE must not forget the oil wells in Western Pennsylvania and West Virginia.

Kerosene is made from petroleum, or rock oil, which is found in the earth. Wells are bored, and when the oil is first struck, it sometimes spouts up twenty or thirty feet high. The oil is pumped into great tanks, and sent off to be refined, or fitted for use. It is then shipped to all parts of the world, to light the cottages of the poor and the mansions of the rich.

Pennsylvania furnishes more oil than any other state.

The salt wells of Syracuse, in New York, and the Kanawha wells, in West Virginia, supply much of the salt used in the United States.

Brine is pumped from the earth, and boiled in large iron kettles, or, it is put into wooden tanks, and left to dry up by the heat of the sun. When the water has evaporated, the salt remains behind.

We can mention but few of the cities of this section. New York is the largest and richest city in America. In its harbor may be seen ships from

all parts of the world, bringing the products of other lands, and carrying away grain, flour, and other products of the United States.

Let us walk along the wharves. What piles and piles of goods! Here are tea-chests from China and Japan, bags of coffee and bales of hides from South America, casks of wine and boxes of raisins from France, cases of oranges from the West Indies, hogsheads of sugar from New Orleans, bales of cotton from Mobile.

Here, too, are ship-loads of emigrants, just arrived from Ireland, Germany, Norway, and many steamers loaded with passengers for all parts of Europe. There are great ships freighted with flour, others with wheat, or with cotton, setting sail for Liverpool.

THE BROOKLYN BRIDGE.

This wonderful bridge is more than a mile in length, and its central span, which crosses the river, is somewhat more than a quarter of a mile. It is so high that the largest ships can pass under it.

How many kinds of boats can you see?

Central Park, with its beautiful walks, drives, trees, shrubbery, ponds, bridges, and other attractions, is a favorite resort of the citizens.

Brooklyn is on Long Island. It is separated from New York by East River. A grand suspension bridge connects the two cities. Wheat is brought to Brooklyn in barges from the Erie Canal, and on cars, to be stored in elevators, and put into ships that cross the ocean.

Philadelphia is next to Chicago in size, and it stands first in the number of its manufactories, of which there are more than ten thousand. It has a large number of fine public buildings, and many parks. The city extends for twenty-three miles along the Delaware River, which is here a mile wide, and navigable for ocean-going ships. It has few tenement houses, and the largest number of comfortable homes of any city in the Union. It has been called the "City of Homes."

In 1776, the Declaration of Independence was signed in the old State House, which is still standing. The good Quaker, William Penn, founded the city and gave it its name, Philadelphia, which means the "City of Brotherly Love."

Baltimore, the leading city of Maryland, has large rolling-mills, sugar refineries, and tanneries. It deals in tobacco, canned fruits, and oysters. Most of the imports and exports of the United States pass through New York, Philadelphia, and Baltimore.

Buffalo, on Lake Erie, is noted for its extensive lake trade. It receives much of the grain shipped along the Great Lakes, and sends it east on the Erie Canal, and on the different lines of railroad.

Pittsburg manufactures iron goods, glass, and other articles.

Queries.—Why is kerosene called rock oil? Do we get salt from Syracuse? From what country did William Penn come?

THE SOUTHERN STATES.

READING LESSON LV.

CLIMATE AND PRODUCTIONS.

THIS section consists of North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Tennessee, Arkansas, Louisiana, Texas, Indian Territory, and Oklahoma.

The climate is warm. The winters in the northern part are very mild, and farther south they are no colder than the early fall in some of the Northern States. In Florida, flowers are seen all the year.

Farming, or planting, as it is called, is the chief occupation. The land is divided into large tracts, or plantations, and the planter, or owner, employs many laborers, who live in humble cottages near his residence. Sometimes there are several hundred of these laborers on one plantation, and the planters' houses are often miles apart.

Many of the laboring people of the South are blacks, who were once held as slaves. They were made free by the Great Rebellion, or war between the North and the South.

Corn, wheat, and tobacco are raised, especially in the northern part, but cotton, sugar, and rice are the most important crops. All the states grow cotton in considerable quantities, but Texas, Georgia, and Mississippi take the lead. The Sea Islands, of South Carolina, produce the finest quality.

Every child has seen batting, and knows how cotton looks before it is spun. It grows on a plant, and the cotton is in large, roundish pods, called bolls. The seeds are inside the boll, and the cotton is wrapped all about them. When they are ripe, the bolls burst, and the fields are white.

Now come the pickers, with their bags and baskets, and the cotton is gathered, and carried to a machine called a cotton-gin, which separates the seeds. The cotton is then put into a press, and packed into great b..les and sent to market.

Some of it is shipped to England, some to New England, some to the Middle Atlantic States, in fact, to all the mills of the land. So we see how the people of one part of our country help the people of another.

Louisiana, Georgia, and South Carolina are the chief rice-growing states.

The rice plant resembles wheat, but its beards are very long and harsh. The low land rice requires a great deal of water, and it is generally sown along the sea-coast where the tides overflow, or on the borders of rivers like the lower Mississippi, whose waters are kept in their channels by dykes. After the rice is sown, the water is let on to the fields through gateways in the dykes.

When the rice is up, the gates are closed until the stalks begin to joint, when the water is again let on, until the crop is ripe. Care must be taken to give a fresh supply of water as often as every other night.

To cultivate the crop, men wade over the fields and pull out the weeds and grass which the water has not killed. The dry land rice is sown in the same manner as barley or oats, and needs no more water than these grains.

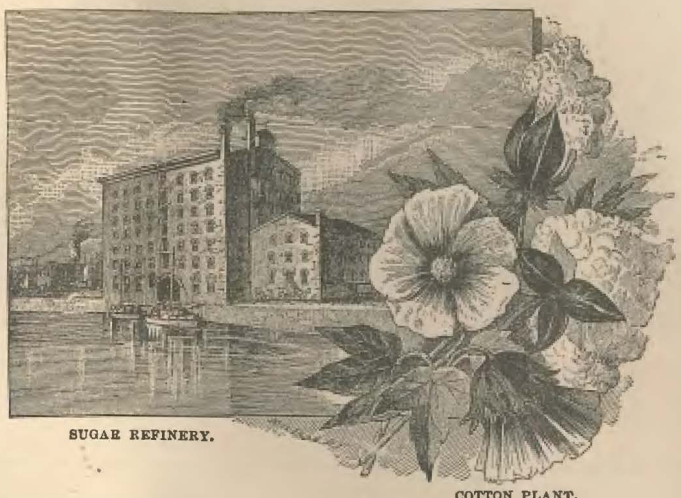
Queries.—What is the meaning of the word Florida? Why is one of the territories called the Indian Territory? Which is the most useful plant grown in the Southern States? What is meant by Sea Islands?

READING LESSON LVI.

PRODUCTIONS AND OCCUPATIONS.

IF we travel in Louisiana, which is the great sugar state, we shall see hundreds of sugar plantations.

Sugar-cane requires a very warm climate. It grows somewhat like corn, but it is not planted in the same way. In September or October, pieces of cane, fifteen or twenty inches long, are cut from the stalk and planted in the ground. These send up a sprout from each joint, which grows from ten to twenty feet high. The cane is ripe for the mill in the beginning of the second year.



SUGAR REFINERY.

COTTON PLANT.

After the stalks are cut, the roots send up new shoots, which furnish another crop, and so a single planting sometimes lasts for fifteen or twenty years. At the proper season the cane is cut and drawn to a mill, where it is crushed between great iron rollers, and the sweet juice squeezed out. The juice is boiled in large pans, or kettles, until syrup, or sugar, is formed.

Along the coast, from Mississippi to Virginia, are forests of pine. They extend many miles back from the shore, and much of the land in this belt is sandy, or low and swampy.

These pine woods yield large quantities of tar, pitch, turpentine, and resin, which are chiefly used in ship-building, and they are sent wherever ships are made. Tar is obtained by burning pine wood in closely covered heaps, called kilns.

The Cumberland Mountains, the Blue Ridge, and the Alleghanies extend into the Southern States. In this region, we find marble, iron, and coal. There are many rapid streams, and this is the most broken or hilly portion of the South.

Florida is noted for its fine winter climate. From fall to spring the hotels are crowded with health-seekers from the North. Orange orchards take the place of apple orchards.

The orange tree is the longest-lived fruit tree known. It is said to have reached the age of three hundred years, and to have borne fruit for more than a century. No other fruit tree will grow and produce fruit so well under rough treatment. It commences to bear the third or fourth year after budding, and by the fifth year it will produce an abundant crop. An old tree will sometimes bear thousands of oranges.

If we should travel along the swampy shores, in Florida, we would see gay-colored flowers and mosses hanging in long festoons from the trees.

Texas is the pasture state of this group. The great stock farms are called ranches. Millions of cattle, horses, and sheep are herded on the plains.

The South is not a great manufacturing country, but her people are doing more and more of this kind of work. Atlanta, in Georgia, seems to be taking the lead. It has extensive iron works and cotton mills.

New Orleans is the largest city. It is built on the Mississippi River, one hundred and fifteen miles from its mouth. It lies wholly below the high-water level of the river, and the flood is kept out by banks, called levees. Where the houses are built, the land is so low that large ditches are cut to hold the water, and strong steam pumps are used to force it into a lake near the city.

The wharves extend for miles along the river, and here we see steamships from Baltimore, Philadelphia, New York, Boston, and Liverpool. They come for cotton, sugar, rice, and other products, and bring all sorts of manufactured goods, needed by planters and other citizens.

Here, too, are hundreds of boats which ply on the Mississippi, and its branches above. Thousands of negroes are loading and unloading all kinds of merchandise. What a busy scene!

Queries.—Would you like to live in a sugar-growing state? Of what use are tar and pitch in ship-building? Why are so many negro laborers employed in the South?

THE CENTRAL STATES.

READING LESSON LVII.

GROWTH, CLIMATE, ETC.

THE group of states we are now to study consists of Michigan, Ohio, Indiana, Kentucky, Illinois, Wisconsin, Minnesota, Iowa, Missouri, Kansas, Nebraska, North Dakota, and South Dakota.

One hundred years ago the Indians fished in the lakes and streams, hunted the timid deer in the forests, and the bison on the prairies, of this great section. Then there were only a few missionaries, or a handful of fur traders, where some of the great cities now are; and there was not a road, a farm-house, or an acre of corn or wheat, from Ohio to Dakota.

Now, as every child knows, there are thousands and thousands of happy homes, which were built by people from the older states, and from all parts of Europe. On lands set apart for their use, a few Indians still remain; but most of them have been crowded farther and farther west, or have gone to the "Happy Hunting Grounds" beyond the grave.

Some of the Central States lie well to the north, and the winters are cold. Others are farther south, and here the climate is mild in the winter months, and the summers are warm and long.

The land is mostly level, and much of it is prairie. The Cumberland Mountains, in the eastern part of Kentucky, and the Ozark Mountains, in Southern Missouri, are the only ranges, and these are not very high.

In one county in Kentucky there are not less than five hundred caves. One of these is so large that it is called Mammoth Cave. We may travel in it for miles and miles. There are many large rooms, where the limestone has beautiful shapes that glisten like diamonds, when the torchlight of the visitor shines upon them. It is like the palace of fairies. In this cave are several rivers, and a lake, the home of fish that have no eyes.

In the northern part of Michigan, of Wisconsin, and of Minnesota are forests of pine. This gives rise to lumbering. Great numbers of logs are cut

PLOWING A DAKOTA WHEAT FIELD

in the winter, and floated in the spring down the streams to the Mississippi, or the Great Lakes, to be sawed and shipped all over the prairies. The most extensive saw-mills are found at Minneapolis.

Farming is the chief occupation of the Central States, and the prairies are the great agricultural section of our country.

When the New England States were settled, the land had to be cleared of trees and roots, and sometimes of stones, before it could be plowed. Only a little land could be cleared each year, and the farmer grew old faster than his fields grew in size.

He sowed his grain by hand, cut it with a crooked blade called a sickle, bound it by hand, and threshed it with two sticks tied together, called a flail.

How different this is from prairie farming, as we now see it. No wonder that we can raise grain for ourselves, and for the hungry people of other lands, when the soil is so rich, when there are no trees or stones in the way of the plow, and when the fields can be sown and the crops harvested and threshed by machinery.

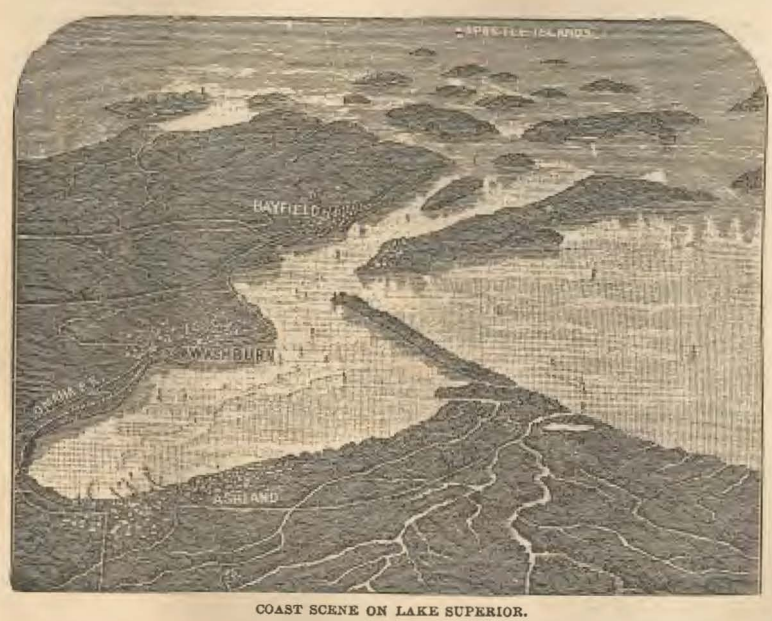
Immense crops of wheat, corn, oats, tobacco, vegetables, and fruit are raised, but each plant seems to have its favorite soil and climate.

SPIRIT LAKE, IOWA.

The wheat plant finds its best home in the northern part of this section. It is the great wheat-growing belt. In some places in the Dakotas wheat fields stretch away farther than the eye can see, and the sun seems to rise and set in a field of wheat.

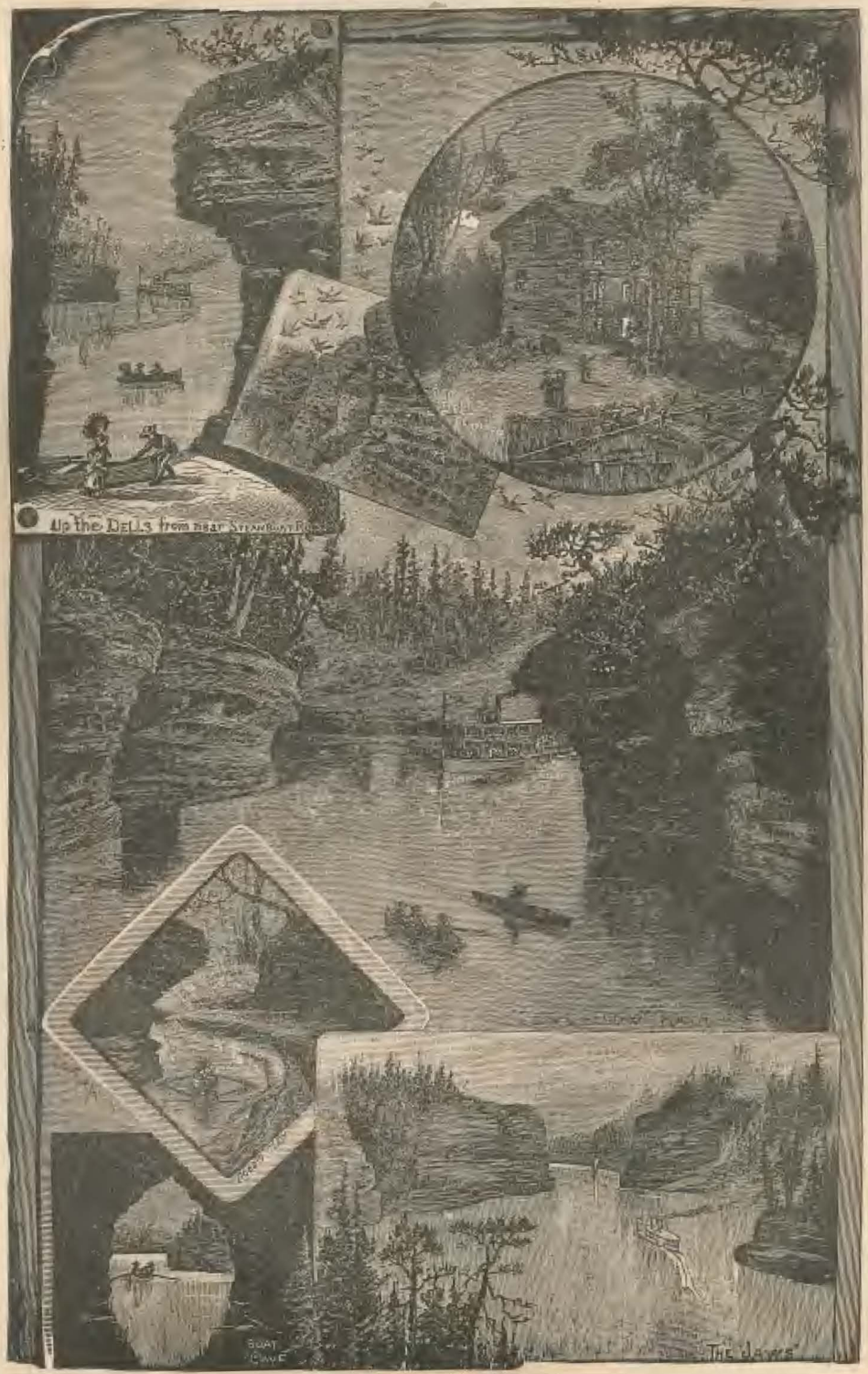
Millions of bushels are ground at home, and the flour is sent in barrels and sacks to the East and the South, and to the countries of Europe. Other millions are sent to England, to be ground there.

Corn likes a rich soil and much heat, and the great corn belt is in the southern portion of the Central States. Here are corn fields, miles in length. Corn, corn, in all directions; but it does not pay to raise so much corn to sell. It must be fed to live stock; and this gives rise to another important branch of farming. Large numbers of hogs and cattle are



COAST SCENE ON LAKE SUPERIOR.

The picture gives us a bird's-eye view of one of the most charming portions of the Lake Superior coast. Indian villages were found here by the early French explorors, and a Catholic mission was established at La Pointe as early as 1665. At this place, in 1831, the first pure white child, born in what was then the far Northwest, was given to the wife of the Protestant missionary, Rev. Sherman Hall.



DELLS OF THE WISCONSIN RIVER.

Questions on the Picture.—How many different scenes have we here? What do you suppose the old Dell House is used for? What lies in the water in front of the house? Do you think the boys who are coming down to the river are happy? Why? Why are there so many holes in the ledge? What is a glen? Why is one place called "The Jaws?" What kinds of trees grow on the ledges? Do we see the same steamer in the different views?

kept to eat the corn. These are sold, and shipped to Chicago and Cincinnati, where there are stock yards and packing houses. Thousands of swine and cattle are seen in the stock yards.

In the packing houses are pork, hams, shoulders, lard, and beef, to supply manufacturers, miners, lumbermen, soldiers, and sailors, all over the world. There are hides for the tanners, horns for comb-makers, bristles for shoemakers, and brush makers, and neats-foot oil for the harness. All these things come from golden corn. Kansas and Illinois are great cattle states.

READING LESSON LVIII.

INDUSTRIES, MINING, ETC.

DAIRYING is another important industry. Many creameries and cheese factories are found in Iowa, Illinois, Wisconsin, and Minnesota. Kentucky raises more tobacco and hemp than any other state in the Union. Ohio clips the wool from millions of sheep.

On the shores of Lake Superior are the richest mines of copper in the world. Michigan has extensive salt works; Illinois and Iowa, immense beds of coal and mines of lead; and Missouri, mountains of iron.

These states are not noted for their manufactures, but, after all, this is a very important and increasing business. Immense quantities of flour are made in Minnesota and in Missouri. Illinois and Ohio turn out large amounts of farming tools, machinery, fencing-wire, furniture, watches, and hundreds of other things.

DANA'S GROVE, DEVIL'S LAKE, NORTH DAKOTA.

The Great Lakes, the Mississippi, the Ohio, the Missouri, and other navigable streams, together with many lines of railroad, enable the people to carry on a very extensive trade. The Great Lakes float hundreds of vessels, with cargoes of grain, meat, and other farm produce.

Much of the grain goes to Buffalo, and is there put on the Erie Canal and taken to Brooklyn, where we learned about the great warehouses. Some cargoes go through the Welland Ship Canal, which connects Lake Erie and Lake Ontario, and thence down the St. Lawrence, and across the Atlantic to Europe. The Mississippi and the Ohio have hundreds of steamers carrying passengers and goods.

Chicago is the largest city in this division of states. It has immense elevators for the storage of grain. Hundreds of trains arrive and depart every day in the year. Its harbor is filled with ships. Vast quantities of wheat, beef, pork, lumber, dry goods, and groceries are bought, sold, and shipped.

St. Louis is the largest city on the Mississippi, and is noted for its river commerce. At its wharves we see steamers from New Orleans, St. Paul, Pittsburg, and the upper Missouri. The river is spanned by one of the finest steel bridges in the world. Its public gardens and parks are numerous and very fine. They are visited by thousands of people.

Cincinnati stands first among the cities on the Ohio, and is a very beautiful place. The Tyler-Davidson fountain, cast in Bavaria, is one of the grandest ornaments of the city. Vineyards cover the hill slopes, and large quantities of wine are made. There are extensive manufactures, and many pork-packing houses. A fine suspension bridge crosses the Ohio at this point.

THE ROCKY MOUNTAIN AND PACIFIC STATES AND TERRITORIES.

READING LESSON LIX.

MINING, PARKS, ETC.

COLORADO, Nevada, California, Oregon, Montana, Washington, Wyoming, Idaho, and Utah are the nine states, and New Mexico, Arizona, and Alaska, the three territories, we will now study. We have already learned something about this part of the country, but so many interesting things are found here, that we shall do well to visit it again.

Most of the Indians remaining in the United States inhabit the Rocky Mountain and Pacific region. They are not very good neighbors, and soldiers are always needed to protect the frontier settlements. These soldiers are stationed at forts, established here and there.

The grizzly bear, black bear, deer, antelope, Rocky Mountain goat, and bison are still found; but the bison, whose flesh is the chief food of the Indian, is seen in smaller and smaller herds each succeeding year.

The grizzly bear is the most terrible beast of prey on the continent of North America. It sometimes measures nine feet in length. Its hair is long, and its color is a mixture of brown, white, and black. It is hard to kill, and makes a fearful fight when wounded by the hunter. It has been known to master a buffalo, and drag away its huge carcass. It can run swiftly, but it does not climb trees. It is said to hunt its prey by night and by day.

Until the discovery of gold in California, in 1848, the people of the older states knew little of this portion of the continent. After the gold excitement broke out, thousands of eager men, from all parts of the United States, flocked to California.

As there were no railroads to the Pacific coast, ox teams and horse teams were used instead of cars. Trains of wagons were seen moving over the great plains, and over the mountains, to the Land of Gold. They bore young men and old men, with food, pistols, rifles, knives, picks, and shovels. Many gold-seekers went by water to Panama, crossed the isthmus, and sailed along the Pacific coast to San Francisco, which was then a small Spanish town.

It was not long before the precious metals were found in Nevada, Colorado, and other territories, and this section is now noted for its mines, and is dotted with mining cities and towns, some of which are from one to two miles above the level of the sea.

No other portion of our country contains such noble mountain ranges, lofty peaks, elevated table-lands, and grand scenery as this.

Let us take the Northern Pacific Railroad, at St. Paul, and visit the National Park, in Wyoming and Montana, and then pass on to Idaho, Oregon, Washington, and Alaska.

The National Park is sixty-five miles in length, and fifty-five miles in width. Congress set it apart as a pleasure-ground for the people of the Nation, and it contains so many strange things that it has been called the Wonderland of the World.

As we glide along on the train, we see the great wheat fields of North Dakota. Farther on, near the boundaries of Montana, we enter the Bad Lands. Here are a great many irregular hills, some of them three hundred feet high, with bright, green valleys between. Standing here and there in the valleys, are petrified stumps of huge trees. The sides of the hills are red, gray, brown, blue, or black in color. They have all sorts of curious shapes—like towers, castles, domes, peaks, spires, ridges, and pyramids. One of the hills, called Burning Mine, is on fire.

Queries.—Why are the Indians not good "neighbors?" Is the grizzly bear found anywhere in the world except in the Rocky Mountains? What is meant by the expression, "after the gold excitement broke out?" Why did those who were going to California, in olden times, carry pistols and knives? What is meant by petrified stumps of trees?

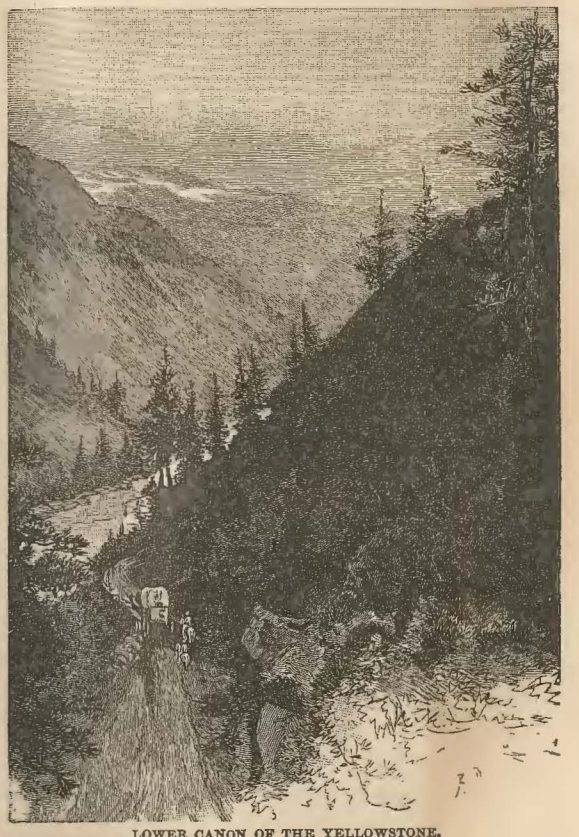
READING LESSON LX.

GEYSERS, HOT SPRINGS, ETC.

THE National Park is noted for its geysers, hot springs, waterfalls, and canons. There are more geysers and hot springs than in all the world besides. No less than fifty geysers send their columns of boiling water from fifty to three hundred feet into the air. Large numbers of stones are spouted up with the water, and rise far above it. The roar of the geysers, the hissing steam, and the trembling earth, fill us with fear.

"OLD FAITHFUL."

"Old Faithful," "Bee Hive," "Giantess," and "Lioness" are among the most noted of these wonders; but "Excelsior" is the grandest of them all. It spouts at irregular times, and throws a stream, sixty to seventy-five feet in diameter, two hundred and fifty to three hundred feet high.



LOWER CANON OF THE YELLOWSTONE.

The Mammoth White Mountain Hot Springs are the most beautiful springs in the world. They cover a mountain side, which has been made as white as snow by the lime in the running waters, and yet the springs are as clear as crystal. The rims of the basin which hold the water are like bead and coral work, colored scarlet, green, and yellow.

Besides these wonders there are great waterfalls, with their clouds of mist; silver cascades; deep canons, with red, yellow, brown, and white walls, two thousand feet high; beautiful lakes; volcanoes, which throw up pink mud instead of lava; mountains, fringed about with evergreen

forests; peaks, white with snow in the hot summer days; and a hundred other strange things which we can not stop to see.

As we pursue our journey westward, the train carries us through a region of grand mountains, beautiful valleys, rushing cataracts, and fine old forests, until we land at Tacoma, on Puget Sound, whose clear, deep waters might float all the ships in the world.

The Indians of Alaska are divided into families each of which has a badge or totem. Among these totems are the raven, the eagle, the wolf, and other animals. In front of many of the houses, and at the burial places, are tall timbers covered with carvings of their totems. The picture gives us a view of two of these totem poles, on which we can see various figures. The poles are often sixty feet or more in height.

AN ALASKA HOUSE, WITH TOTEM POLES.

We will take an ocean steamer and continue our journey to Alaska, a country which our government purchased of Russia, in 1867. It is large enough to make several states. Its mountains are the highest in North America. The glacier of Mount Fairweather extends many miles to the sea, and ends in an ice wall three hundred feet high and eight miles broad. The waves of the ocean dash against it and shape the ice into caves, spires, gables, and other strange forms.

As we travel about, we find many craters of spent volcanoes; a lake of sulphur; a boiling, steaming spring, eighteen miles round; hot marshes; a river navigable for 1,500 miles; immense forests; valuable minerals; and many fish, and fur-bearing animals.

Back from the coast the climate is cold, but there is a current of warm water, moving through the Pacific from the coast of Japan, which makes the winters of Sitka, the capital, very mild.

Have we learned of any other northern country which is made warm in the same way?

Query.—What is the meaning of "spent volcanoes?"

READING LESSON LXI.

MOUNTAINS, WATERFALLS, ETC.

NEAR the center of California is a park called the Yosemite Valley, which Congress gave to that state in 1864. It also gave the Mariposa Big Tree Grove at the same time.

The Yosemite Valley is a level tract nearly six miles long, and from half a mile to a mile in width. It has steep, bare mountain walls, thousands of feet high, and several wonderful waterfalls. One granite rock, called El Capitan, rises 3,300 feet, or 200 rods, nearly straight up from the valley, without a shrub, or a blade of grass, on its sides.

Another, called, on account of its shape, the Half Dome, is 4,737 feet high.

A waterfall, named Bridal Veil, descends 800 feet. The winds cause the falling stream to

ALASKA'S THOUSAND ISLANDS, AS SEEN FROM SITKA.

wave like the white veil of a bride. The Virgin's Tears falls 1,000 feet, but the stream dries in the early summer. Yosemite Creek makes a leap of ninety rods; then rushes downward in cascades nearly forty rods; then makes a final plunge of twenty-four rods to the rocks below. The park has other mountains and falls, as interesting as these, about which we will learn in another book.

There are but two seasons along the Pacific. From November to May, rain is abundant. During the rest of the year there is scarcely any. Eastward of the Sierra Nevada and Cascade Mountains, little rain falls, and the climate is dry.

In many parts of this section the farmers can not depend on summer showers to make their fields green, and long ditches are dug to carry the water from brooks and rivers to farms, gardens, and orchards, wherever it is needed.

The water is first taken in a large ditch, and from this it is conveyed all over the fields in small trenches leading out from the main ditch. This is what is called irrigation.

In Arizona there are extensive remains of ditches and aqueducts, which were used for irrigation, by people who lived there, nobody knows when.

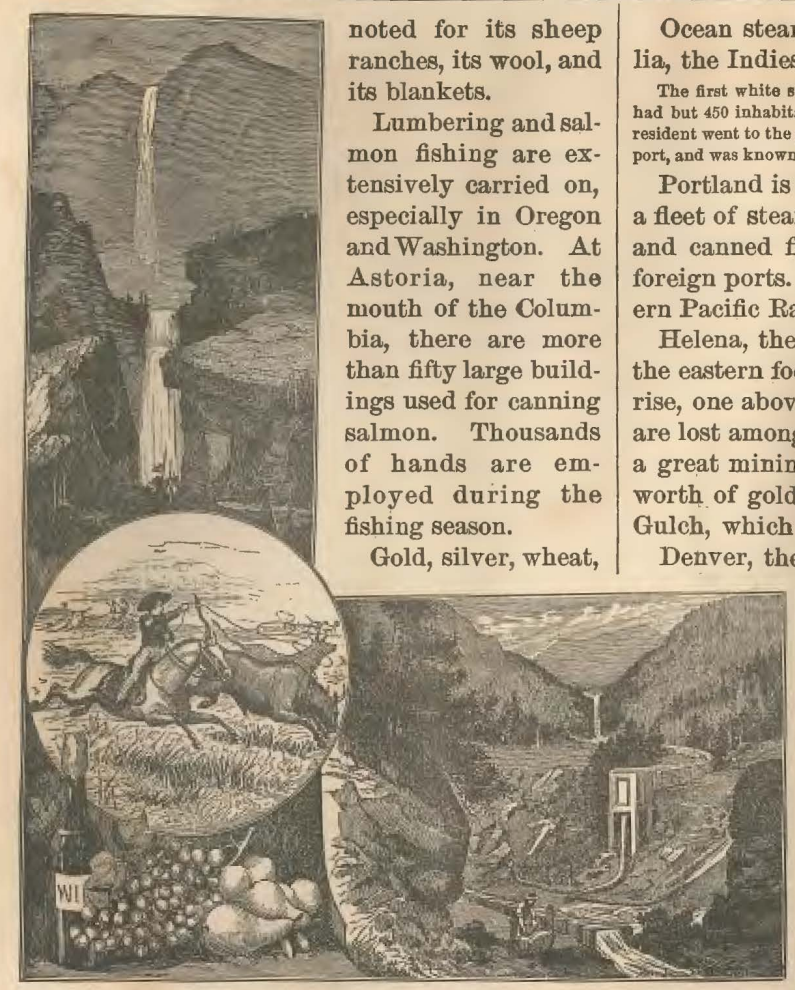
[Think of some place that is two hundred rods from the school-room, and then think of a rock as rising that distance above the place where you stand. Imagine that you are at the foot of a waterfall more than a quarter of a mile in height. Would it not be a grand sight? Have we read of any other part of the world where the farmers depend on irrigation?]

READING LESSON LXII.

OCCUPATIONS, PRINCIPAL CITIES.

THE finest wheat, oats, and barley are raised in the country bordering on the Pacific coast. California produces immense quantities of fruit. Its orange groves and vineyards are among the largest and finest in the world.

Stock-raising is the chief occupation in many parts of this section. Colorado, Wyoming, and Montana swarm with cattle and sheep, which are herded on their rich pastures with little or no hay or grain, even in winter. California is



How many occupations are shown in this picture?

noted for its sheep ranches, its wool, and its blankets.

Lumbering and salmon fishing are extensively carried on, especially in Oregon and Washington. At Astoria, near the mouth of the Columbia, there are more than fifty large buildings used for canning salmon. Thousands of hands are employed during the fishing season.

Gold, silver, wheat, fruit, fish, wool, and cattle are sent away to other parts of the country; and mining machinery, cotton, and woolen goods, and other articles for family use, are brought in from the manufacturing states, on the Northern Pacific, the Union Pacific, and the Southern Pacific, with their many branches.

San Francisco is the chief city of North America, on the western coast. It is built on a fine bay, fifty miles long and five miles wide, and deep enough to float the largest steamships. The bay is entered through a deep strait, called the Golden Gate. Some of the streets and buildings are among the finest in the world. The dwellings have a large number of bay windows, and there are few shade trees.

Ocean steamers run to Japan, China, Australia, the Indies, Panama, and Sitka.

The first white settlement was made by the Spaniards, in 1776. It had but 450 inhabitants in 1847, and the next year nearly every male resident went to the gold diggings. In 1849 it had become a great seaport, and was known all over the world.

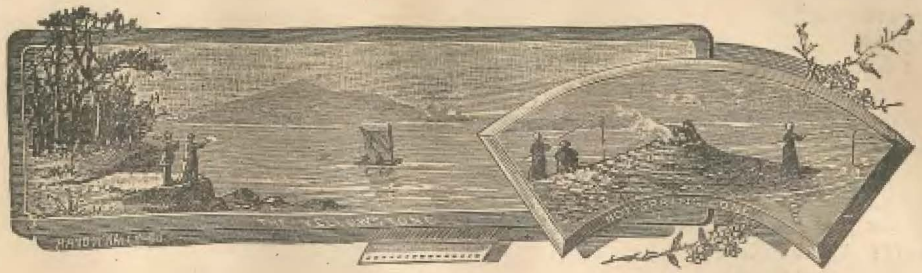
Portland is the largest city in Oregon. It has a fleet of steamships, and great cargoes of wheat and canned fish leave the Columbia River for foreign ports. It is the terminus of the Northern Pacific Railroad.

Helena, the capital of Montana, is situated at the eastern foot of the Rocky Mountains, which rise, one above the other, until the more distant are lost among the clouds. It is at the center of a great mining country, and millions of dollars worth of gold have been dug from Last Chance Gulch, which runs through the city.

Denver, the capital of Colorado, is a fine city. It is a mile higher than the sea, and stands upon several plateaus, rising one above another. It is filled with beautiful shade trees, and clear streams of mountain water sparkle on each side of all its principal streets. The air is clear, and several snow-capped mountain peaks can be seen in the distance. It has a great trade with the mining country around.

Queries.—Why is the entrance to San Francisco Bay called the "Golden Gate?" Do the people of San Francisco need shade trees? What is meant by a fleet of steamships? Do we get salmon from Oregon? Ask your teacher to tell you about hydraulic mining, as shown in the picture.

A PLEASANT SAIL.



MISCELLANEOUS REVIEW OF THE UNITED STATES.

1. Where were the first settlements? By whom were they made? How many colonies were there at first? Who ruled over these colonies? How many states and territories are there now? From what lands did the people of this country come? What is the capital of the country? What is the title of the highest officer in the United States? The title of the highest officer in a state?

2. Where do we find the loftiest mountains in the United States? In a journey from New York to San Francisco, would we see more level land on the way or more mountains? Would we notice any great changes of climate? If we were to follow the Mississippi from its source to its mouth would we notice any great changes of climate? Where would we find the longest rivers? The largest lakes? The highest waterfalls? Where would we find geysers and hot springs? Where would we find a glacier? A salt lake?

3. In what states would we see sugar-cane growing? Where would we find farmers making maple-sugar? Where do flowers bloom all the year? Where would we see the largest fields of wheat and corn? The largest fields of tobacco and hemp? The largest vineyards? In what states would we see cotton, rice, and oranges growing?

4. What state produces the most oil, or petroleum? What states produce large quantities of coal and iron? Where are the richest copper mines in the world? What part of the country yields the most gold and silver?

5. In what sections of our country are the people most largely occupied in manufacturing? In commerce? In mining? In fishing? In lumbering? Which are the planting states? Where would we see immense herds of cattle? What state has the largest salmon fisheries? What state has the most caves? The most lakes? Which do you think the more important, the mineral or the vegetable productions of our country?

6. Of the articles sold in a grocery store, which are produced in the United States? Which of them are raised in our own state? Where do the manufacturers of New England get their cotton? Where do the people of the South get their cotton and woolen goods and machinery? Where do the people of the Rocky Mountain States get their mining tools and miners' supplies? Where do the people of the manufacturing districts get most of their flour, pork, and beef? Where do we get our salt and kerosene? In how many ways are goods conveyed from one part of the country to another? For carrying goods and passengers, which are the most useful, the lakes and rivers, or the railroads?

MISCELLANEOUS REVIEW OF THE WORLD.

(Exclusive of Review of the United States.)

1. Which hemisphere has the most land? Which is the largest continent? The smallest? Which continent has the most irregular coast? The most regular? Which has the highest mountains? The longest ranges? The greatest number of ranges? Which continent has the highest plateaus? The longest river? The fewest rivers? Which continent has many small rivers?

2. Which is the largest ocean? Which are the coldest oceans? Which is the warmest ocean? On which ocean would we see the greatest number of ships? Which ocean has many arms on the west but few on the east? Where do we find the greatest number of seas? Are food fishes obtained from warm or cold waters? What are obtained from the coast of Newfoundland? From Greenland? From the coast of Norway?

3. Tell what you can of the Esquimaux. What are the chief sources of wealth in the colder portions of the Dominion of Canada? For what is Manitoba noted? What is the climate of British Columbia? What are some of the products of Ontario? What is obtained from the mines of Nova Scotia?

4. Name some of the products of Mexico and Central

America. What is one of the most useful plants? Have you seen any plants whose home is in Mexico? What insect is used for coloring? What sort of people are the Mexicans?

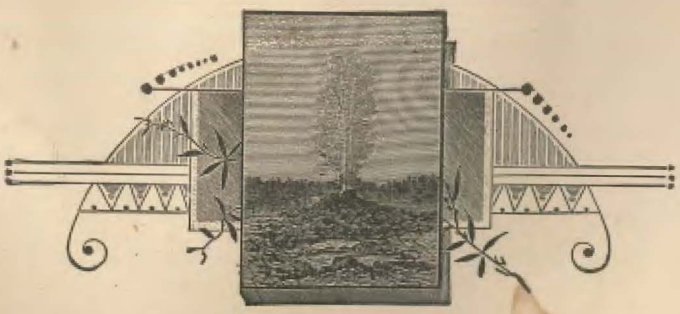
5. What do we get from the West Indies?

6. Name the longest mountain range in South America. The largest rivers. Name some of the plants of South America. Some of the animals. What is one of the chief occupations of the people? What is raised in the high mountain valleys? What do the people of the United States get from the plains of the Orinoco and the La Plata? What country of South America sends us much coffee? What country gave us the potato? What can you say of the forests of the Amazon?

7. What are the most celebrated mountains in Europe? What river is noted for its beautiful scenery? For its commerce? For its fisheries? Which is the lowest country in Europe? Where is the largest city in the world? What country has possessions in every part of the world? What country has the most ships? What country exports the most wheat? Which are the wine-making countries of Europe? What country has large fields of roses? What country furnishes lumber, and masts for ships? Which are the silk-producing countries? What country has great mines of salt? What country is noted for its great universities? For what is Ireland noted? Scotland? What can you say of Rome? What city has the largest palace in Europe? The finest picture gallery in the world? What country supplies the world with sulphur? What country is noted for its lace and carpets? For its windmills?

8. Where are the highest mountains, the broadest plateaus, and the deepest valleys in the world? Name some of the plants and animals of Asia. What can you say of Siberia? Of the people of China? Of the people of Japan? What nations live mostly on rice? What nations make great use of the bamboo? What countries furnish us tea? What country sends its young men to our schools? What country gave us the peach and the melon? What country sends us the best coffee in the world? From whence did most of our domestic animals come? In what country did Christ live?

9. Mention some of the great animals of Africa. Some of its strange trees and plants. Which is the most interesting country of Africa? Why is Egypt so fertile? How are ivory, ostrich feathers, and gold dust brought from Central Africa? Which is the most useful animal in Africa? What precious stone is found in Southern Africa? How do the people of Soudan preserve water during the dry season? Which is larger, the Desert of Sahara or the United States? What people in Africa are very kind to their dumb brutes? Where are the pyramids and sphinx?

10. What are the chief productions of Australia? Name some of the strange animals found there. What are some of the productions of New Zealand? Name some of the products of the East India Islands? From what islands do we get spices? Which island is ruled by the Dutch?

11. Which continent has the most civilized nations? The most commerce? Which continent has the most large animals? The most animals useful to man? Which has the sweetest song-birds? The most people? Which continent has the largest number of broad-leaved plants? The largest number of butterflies, fireflies, and other insects? Which is the largest grain-producing continent? What island produces the greatest amount of wool? What countries of the world produce large quantities of cotton? What countries are noted for their fur-bearing animals? Mention the various modes of traveling in the different countries of the world. On which continent have our journeys been the most pleasant?